messing about in BOATS

Special Features This Issue
Gunkholing on Bay and Delta
An Evolutionary Step - Uncle Gust's Boats

Volume 13 - Number 17

January 15, 1996

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In Our Next Issue...

We've lined up quite a lot, hope it all fits in.

Ed McCabe reports on "Multi-oared Youth Rowing in '95" and Art Davison brings us major coverage of "Summer Sailing Canoe Championships".

Fred Wales admits to "Fooling Myself with Short Simple Cruises", Ruth Larkin confesses her mishaps in "Kayaking Under Bridges" and Tom Carter finally gets to tell us about how he "Had to Paddle the Pass".

Jim Michalak brings us his "Four New Boats in '95", Phil Green reveals his new "Indian Canoe Design", Phil Bolger presents "A 36' Keel Cruising Catboat", and the trimaran series brings Dick Newick back for comment on his "B-Squared, Spark and the T-Gull 25".

Dave Thibodeau's "Evolution of the *American Flyer*" leads off project reports, with a number of smaller items following: George Fulk's "Another Bolger Skiff", Jack Moore's "Keelboat to Coastal Cruiser" and "Some West Coast Gloucester Light Dories", Jessica Sennhauser's "10th Graders Build a Kayak Fleet"; and Joe Thompson and Tom Pichieri tell us what's happening at their boatshops, Hogtown Bayou Boat Works and Clarksville Watercraft.

There'll also be short items on "Better Bulbs" from Ira Goldstein, "Lounge Chair Boating" from Marshall Katz, "How About Self-Tapping Screws?" and a "Handy Planking Pattern" from Roy Terwilliger.

On the Cover...

The future of messing about in boats is in the hands of young people like Rebecca, seen here at the Mid-Atlantic Small Craft Festival with her Fiji on a string, one of George Surgent's simple model boat designs, an ultralight trimaran appropriate to our current special focus. More about Fiji in this issue.

Photo by Marla Surgent

Commentary...

The snow's real deep again this winter, already over 42", and winter has hardly begun. In early December I still entertained the idea of another local outing in the kayak, for we do occasionally have nice warm days early in the month. But it didn't happen, and it got cold and snow came, the first white Christmas in our area in 15 years. Now I look out and see the piled up snow and think, "well, another good indoor day."

Shop time to be sure when the office work is caught up to date, but first priority is still to get all the odd jobs put off all last summer and fall tidied up, and then pick up the clutter so a place to work can be made.

I hope to get my latest trimaran concept underway, building longer amas than those I now have, and a folding rig based on what I've learned from the first try, and fitting it all to my 21' Seda Tango double sea kayak. Should be something, lightweight under 150 pounds, long waterline, sleek proven fast moving hull shape, and drive from a windsurfer sail rig.

This choice of sail rig is based almost entirely on budgetary considerations. Windsurfer sails are very efficient driving the sailboards and I would expect one would work well driving a very light sea kayak hull. Best of all, they are readily available here on the used market priced from $50 to $150, as the windsurfer crowd, in search of ever faster performance, constantly trades up to the latest hot setup.

The carbon fiber masts can be had for under $150, the fully battened sails come in a range of areas from 35 to 95 square feet, all very lightweight stuff. Setting the rig up unstayed into a hull partner and step tube bonded right into place ought to work. Ought to, we'll see.

While this is the January 15th issue, and some of you probably won't be seeing it until early February, I'm writing this on January 2nd, so my winter view is longer than yours will be when you do read this. Maybe by then I will actually be at work at last on the project. Lots of time yet before the on-the-water season opens up. Time for further procrastination?

Well, not exactly, but I also am unable to be entirely happy as an indoor person, so maybe I've been out back country skiing instead. I ride my mountain bike a lot when the woods are rideable (after spring mud, before winter snow), and so in winter have opted for the back country skis to go back out on all the trails I've ridden. A cold winter day out in the woods with the low winter sun shining through the bare tree branches on crystalline snow cover (it's clean out there still) from a crystal blue sky is pretty hard to resist. The project will have to wait for a grey day.

Physical exercise is something I have always been eager for, not exercise for its own sake or for weight control, but from doing something I find I enjoy. So winter outdoor activities nicely carry me along for the coming season afloat when mainly it's paddling that demands some fitness. I'm not a fitness freak but I like to go places, and to do so requires stamina so as not to poop out way out there somewhere a long way from being back.

My mountain bike rides cross country of 15 to 25 miles, and ski trips of 10 to 15 miles are great fun and do indeed build up that cardio-vascular system, which then can nicely accommodate long kayak outings. My goal is not to develop speed but stamina, I want to know when I set out that I can keep on going for a long time at a pace I know I can sustain. That endurance comes from breathing and circulation improvements.

This endurance capability can be transformed from long distance staying power to shorter distance coping with unexpected difficult conditions. If the seas build up, or the wind is increasingly adverse, the stamina reserve makes reliable progress possible, albeit at reduced speed and over a lesser distance, without fear of "running out of gas". I haven't had to face this as yet afloat, but my experiences biking and skiing over the past five years have made me realize that I can.

On the water this fitness applies mostly to my paddling. Last fall we had no less than 13 outings, something of a record for Jane and I. None were demanding in severity, but several were quite lengthy and it was nice to just keep on paddling without getting weary. Just coasting. Performance oriented people would push themselves to higher speeds and all out effort, but not me. I don't want to be exhausted when I get back, but rather prefer to view the arrival at the trip's conclusion as nice, but not necessary as far as how I am feeling.

I guess fitness is useful in sailing too, but I see most need for it in the racing dinghy crowd where the athletic gymnastics required to stay upright and go fast look to be quite demanding. As I'm way beyond caring about competition and "racing" in something as intrinsically slow as a sailboat, I see sailing as a more laid back way for going somewhere. The casual daysailer seems hardly in need of being fit, even the cruising sailor has only occasional moments, if any, when strength is in great demand.

Back to my trimaran infatuation. This planned modification to my 21' double sea kayak could result in a boat that would require exercising a fairly high degree of fitness, not only paddling it but sailing it. The potential for speed (relative to a comparable monohull) under sail could increase the level of demands upon my old bod to cope with sail trim and boat control. A 150 pound boat carrying a 160 pound crew (or 300 pounds if two) going 10-12 knots with us right down there at sea level looking into the waves at eye level might conceivably become a test of stamina if kept up for long.

I'd like to be ready in case I get this project done in time for the season. So maybe I'll have to go skiing on some of those days when I could easily just stay in the shop and tinker. Decisions, decisions...

Boating Safety

Casco Flare Test Data/Information

(Follow-up to report in January 1st issue)

Included in this report is the data compiled as a result of deploying various signaling flares for use in kayaking. We would like to thank all who participated and would also like to acknowledge Baert Marine of Danvers, MA, and Hudson Marine of Newburyport, MA, for donations of flare equipment. We felt that the demonstration overall was a good hands-on experience and gave the participants good insight as to the deployment, safety and performance aspects of signal flares. The information and knowledge that was gained from this demonstration proved to be valuable to all. Although there are other flares and signaling devices available, we felt that the ones utilized were the devices most popular and represented a well-rounded picture of choices for kayakers. From the demonstration came some important results that should be used in considering signaling devices to carry. A final thought: being properly prepared for any emergency should be of the utmost consideration for us all. Knowing your own limitations and having good assessment and judgement skills will ensure your safety. The intended purpose of signaling devices is to alert and summon help should the situation present itself. Having the proper array of signaling devices to cover from the ALERT phase to the LOCATION phase will help to pinpoint your position. Deployment of these devices is critical, you must use the right time and the right sequence. Be sure you know deployment and safety procedures and, above all, plan far enough ahead so as not to get yourself into a life threatening or rescue situation. It is better to be overprepared than underprepared. We all owe it to ourselves to be responsible paddlers.

Hand Held

SKYBLAZERS

Conclusion: The self contained hand held flare results were of greatest concern because most of us will tend to carry them due to their compact size and relatively low expense. As test results indicated, the SKYBLAZERS had the highest percentage of failures.

Concerns: Pin/chain release failure; low luminating visibility; arching problems; misfires while in hand creating possible injury.

ORION POCKET ROCKETS

Conclusion: The ORION POCKET ROCKET that is also popular with kayakers proved to be the most reliable and had the highest rate of success among all the flares tested.

Concerns: Be aware of fast trigger release so as not to get a finger caught in the path which could (and did) result in cuts.

Note: These two types of flares are the most popular ones carried by kayakers and, although others are available, test data provided us with a clear picture of their utility. These types of flares should be used as locating flares after an alert flare has been fired.

Pistols

PISTOL FLARE

Conclusion: The two types of PISTOL flares tested were the 12 gauge and 25mm. They both had a good pass ratio and were easy to use. Overall, these two pistol flares performed well. The 25mm was more versatile due to its capability of firing red/white and parachutes as opposed to the 12 gauge's red and white flares. The visibility and performance of the 25mm was noticeably greater than the 12 gauge and overall results were impressive for a pistol unit.

Concerns: *(12 gauge)* Trigger mechanism has to be checked periodically for failure; misfires and arching; limited shell type (white and red only). *(25mm)* Large size pistol (difficult to carry); expensive shells; loud; recoil/kick.

The different types of flares that can be used with the pistol allow you to cover the ALERT and LOCATION PHASES of signaling.

Rocket Flares

PAINS-WESSEX FLARES

Conclusion: The large hand-held Pains-Wessex Rocket Flares were fired with a 50% ratio. There was no doubt among participants that these flares were the best for ALERT signaling. Their high altitude and visibility were far superior to any of the tested flares. It was of general opinion that these flares had to be deployed at the right time to be successful.

It should be noted that other flares were utilized for test purposes. These flares consisted of non-Coast Guard approved flares from Germany. They were a third of the cost and smaller in size but were of equal power and were fired for comparison purposes. They were similar to that of the Pains-Wessex types and their triggering mechanisms were a little bit easier to use.

It should also be noted that they were not without flaws as we experienced one delayed deployment due to trigger jam and another, although it obtained proper altitude, arched from behind its deployment position. All five were successfully fired.

Concerns: Expensive; trigger mechanism failure; disposal of failed flares.

Conclusions: The hand-held flares that were used all had a good firing ratio with no failures. All flares were easy to ignite and were highly visible as a locating signal. The ORANGE SMOKE as tested were of limited use, day only, and also limited to certain wind conditions.

Concerns: Molting slag/ash creating a severe burn if not held properly; visually distorting/damaging upon direct sight; very hot after use, can ignite a fire well after expiration; ignite materials and clothing easily; exposure to moisture.

It should be noted that all hand-held flares tested exhibited a molten slag/ash drip, which is of the utmost concern due to the high temperature burn that can result. Even though the manufacture states a "non-dripping" type flare, there was a discharge from all tested and proved to still be of great concern. The Pains-Wessex Red MK6 flare was the overall better performer. It exhibited a higher candlepower (visually distressing upon direct sight) and minimal slag/ash drip than others. All of these flares, after expiration, were still of high temperature and had to be handled, extinguished and disposed of properly.

MANUFACTURE	MODEL	EXPIR. DATE	RESULTS P-PASS	F-FAIL	EXPOSURE
ORION					
	HAND HELD R	5/88	3P	---	DRYBAG
	" "	6/93	4P	---	"
	HAND HELD R	3/95	3P	---	ORIGINAL PACKAGE
	" "	7/90	2P	---	" "
	HAND HELD ORANGE SMOKE	6/91	2P	---	ORIGINAL PACKAGE
	HAND HELD ORANGE SMOKE	1/93	2P	---	ORIGINAL PACKAGE
PAINS WESSEX					
	HAND HELD MK6	3/95	1P	---	ORIGINAL PACKAGE
	(NON-DRIPPING)	10/98	1P	---	" "
	TOTAL # FIRED @ 18		18 PASS		NO FAILURES
SKYBLAZER	same	7/90	2 P	1F	In Large boat dry
		3/88	1P	3F	Water,pfd,deckbag
		8/93	3P	3F	Kayakdrybag
		11/95		1F	Kayakdrybag
		1/97	2P		Kayakdrybag
		4/97		3F	Carried in PFD
		3/97	3P		Drybag 2 seasons
		10/95	2P	1F	Drybag in kayak
		7/91	1P	2F	PFD drybag
	TOTAL # FIRED @ 28		14 PASS	14 FAIL	50% RATIO

MANUFACTURE	MODEL	EXPIR. DATE	RESULTS P-PASS F-FAIL	EXPOSURE
			R=Red W=White	
ORION	12 GAUGE GUN	3/84	3RP	Largeboat dry
		3/88	3RP	" "
		6/85	4RP 1WF	Largeboatdry
		4/93	3RP	In package/car
		5/90	5RP 2WF	Drystorage
		7/89	6RP 1RF	"
	TOTAL # FIRED @ 28		24 PASS 4 FAIL	86% RATIO
ORION	25MMGUN	8/98	1Paracht P ---	Drybag
		11/94	1Paracht P ---	"
		4/95	3RedMeteor P ---	Drybag
	TOTAL # FIRED @ 5		5 PASS 0 FAIL	100% RATIO
ORION	POCKETROCKET	3/95	3P ---	INPACKAGE
		7/93	16P ---	"
		8/90	6P ---	INPACKAGE
		9/98	3P ---	"
	TOTAL # FIRED @ 28		28 PASS	100% RATIO
PAINS-WESSEX	PARACHUTE	4/96	1P	INPACKAGE
		7/94	1P	DRYBAG/DAMP
		8/94	1F	"
		4/93	1F	DRYBAG
	TOTAL # FIRED @ 4		2 PASS 2 FAIL	50%RATIO

Lets Eat Crow

A few years back John Lockwood of Pygmy Canoes came up with software that could create plans for hard chine boats such as the tack and tape boats that many of us have been building. As a canoe designer I scoffed at this idea. I had without any computer program created boats for Old Town, Mad River, Winona,, and other canoe companies. I decided to prove that such programs were not needed.

I designed a canoe, the QD2 . Pretty nice paddling solo canoe. Next I did a dory that I called Lauan. It looked good but proved to have too little stability. Then the Lauan 2, much better. This was a multi-chine 15' pulling boat. Great! You don't need software to generate these plans, just some poster board and scotch tape.

Time to try kayaks. After a long hard look at some of Chris Kulczycki's Chesapeake Light Craft plans I figured I could do better and designed a 16' high volume sea kayak. I named this boat LoTec, as I have begun to resent some of the extreme high tech equipment and people that are getting into the kayak movement.

LoTec is a very nice boat but not perfect. The boat has too much rocker and it requires a large skeg to make it paddle well. This same skeg stayed buried in a Lake Superior beach while the boat broached in an attempt to launch in a two foot surf. Back to the drawing board.

My latest project is another kayak. I threw out a couple of ideas borrowed from the Kulczycki plan and did another 16 footer. This boat I call Simplicity. It is really nice.

Okay, so what does all prove about computer programs? Well, my friend Al Gustaveson from the Northwest Canoe Company wanted to add a kayak building class to his canoe building school and liked Simplicity, so he borrowed some of my lines and went home and fed the numbers into his Plyboats program.

A couple of days later he brought me a copy of his results and then proceeded to build a prototype of his slightly modified Simplicity. When I saw his version of my boat I was floored. It had lines like none I had created, things faired up so well that I felt that maybe it's time to take a good long look at the programs that are out there. It is also time to eat a little crow . Please pass the salt.

Mississippi Bob, Apple Valley MN.

Remembering John Gardner

John Gardner was brought up just a couple of miles west of where I now live in a section of Calais, Maine then called Bog Brook, where he and his father built their own small boats from wood they cut in winter and hand tooled into salt water craft the following summer between farm chores.

Perhaps the best article about John is an interview by Peter Spectre in *WoodenBoat*, June, 1981. We have lost a vital man, a man of our interests, a builder, a historian, a researcher, an author of considerable skill.

Your commentary about John in the December 15th issue was well expressed. I am glad you are carrying on in your way the "Notes & Comments from Here & There". It is a fitting tribute and one I know he was pleased with.

Brand Livingstone, Calais, ME.

Your Commentary

Backyard Boatbuilder Club

In response to the letter from Bob Gerfy in the November 15th issue ("A Homebuilt Boat Association") it is my view that backyard builders are such an ornery and secretive bunch, not to mention eccentric (I use myself as exhibit "A") that I don't know whether a national backyard boat club would be worth the effort.

However, certain of his suggestions are commendable. Honoring and encourag-ing designers, preserving traditional de-signs, promoting all sorts of construc-tion, and blowing our own horns are cer-tainly aims worth promoting.

I grew up hearing old guys say about cars, "They don't build them like they used to." I haven't heard this in recent years but if I do I'll mutter, "Thank God." I think it's the same situation with power boats. Forties Chris Crafts were wonderful boats for the time but not comparable to modern stuff, even if I wouldn't give a current vee powered skipping hull yard room.

The same cannot necessarily be said about row and sailboats, in my opinion.

What Bob says about Atkin jars my recall. In my student years at Michigan State University I discovered in the stacks bound copies of *Motorboating* from the 20's to the 50's. I spent a lot of time up there. One thing that surprised me was that Billy, in his last years, drew a lot of flat bottom boats, including a 40 or 50 foot double ended gaff cutter and a couple of very interesting 20 foot outboards. That's one of the reasons I'm a Bolger disciple.

One thing that bugs me is that every time I contact a designer I find he has produced new designs that I'm not aware of yet. I've considered publishing a monthly or quarterly containing study sheets of new designs. I haven't contacted any designers to see if they'd respond. This would be another area of interest that would fit with with Gerfy's ideas.

Ron LaViolette, St. Ignace, MI.

That Was a Bolger/Payson Kayak

By now 90 readers must have identified that "Thomaston Galley" pictured in your Mid-Atlantic Small Craft Festival report on page 16 of the November 1st issue as a Bolger/ Payson 12' Kayak, Design #284.

Bob Simmons, Spokane, WA.

Editor Comments: You're the first and only.

Great Experiences

There have been some complaints from readers about people who do not acknowledge information sent to them that they solicited. I have had my share of those, but I chalk it up to people's inertia on writing letters and think of all the great experiences I have had.

"Rags" Ragsdale in Oregon and I have had a good exchange and yesterday a guy "Rags" had referred to me called from Georgia about plans for a schooner by Fenwick Williams. I gave him some leads. Then there is my long correspondence with Jim Michalak in Illinois, I hope we meet some day. Jerry Enot in NH wrote me about his boats and we have been back and forth.

There have been literally hundreds of phone calls and letters about the Simmons Sea Skiffs, many from our ads in this magazine. I sold my Drascombe Longboat to Bob Cavenagh in Pennsylvania and heard from two greatly disappointed guys who got their issues too late to be first in line.

Tom Jones (*Low-Resistance Boats*) and I had exchanged a couple of letters and have seen each others' letters and articles in this magazine. He and Carol stopped off to see us as they were passing through on their way to Key West on their *Elegant Slider* , a scaled-down (to 21') version of the 1925 26' Elco Cruiser. Tom's book is out of print, but will be reprinted in April with a new title, *Boats To Go*.

I have had a number of inquiries from readers about plans for my $200 Sailboat and I will be advertising them when they become available.

All of these people and the others in our small boat community are the salt of the earth.

David Carnell, Wilmington, NC.

Those Expensive Wooden Boats

Regarding the exchange of opinions on these pages in recent issues about the cost of the Rozinantes pictured in the Wooden Boat Show issue, we also attended the Wooden Boat Show, and these are our observations:

Hand crafted wooden boats HAVE become absurdly expensive, and the several Rozinantes on display seemed to exemplify this. Mr. Feeney's quotations of the rates of monetary inflation, increases in the costs of lumber and labor, international market forces, etc., were not the point. Simply stated; these boats offer no justification for their costs; they are NOT a good value (regardless of the skill or labor involved in their manufacture); and as such they fly in the face of everything Herreshoff believed, built, and wrote about.

We do not believe anyone here is attacking wooden boat builders, or others in the trade. These are simply observations of the value of wooden boats. Mr. Feeney's "concern of implications....of rapacious builders" was clearly off the mark.

That said, we have another observation. The show was sold as a boat show, NOT A MUSEUM. We were disappointed, as were MANY other attendees we spoke with, of not being permitted to go aboard most of the craft. Are these wooden boats THAT fragile and delicate? Apparently so. Also, we found most (not all) of the sellers/builders a pretty obnoxious lot. They ignored the potential customers, wouldn't answer questions, and when asked, would not even find anyone who WOULD answer any inquiries.

We, and our friends, will not be attending next year as we cannot think of any reason to.

Art & Kathy Dillon, Wilton, NH.

A Penultimate Visit

Here is a photo taken in early October from our penultimate trip to the magical island of the summer of '95 (to view filming of *The Crucible* at a re-creation of historic old Salem on Hog Island in Essex Bay on the Massachusetts north shore. Ed.). The star of the movie, D.D. Lewis, is caught galloping to his next scene behind those dories made for the film by Doug Scott of Parker River Boatworks in Newbury. This one just happened. I was about to shoot the odd looking dories when into my viewfinder galloped this astounding image.

Our last visit to the island was over Thanksgiving on a very high tide, and we paddled over marsh to places we'd never been, with the grasses at least a foot below us, and then over to the island. Because you went there once with us, and we enjoyed it together, I'm sad to report that the magic is gone! All that remains is recalling what the piles of wood debris and mounds of earth being shoved back by a bulldozer once were.

Paddling back against the 12' plus tide soon enough awoke us from that reverie!

Alicia Moore, Ipswich, MA.

A Dream Come True

This old beginner is finally realizing a dream come true, building my own boats. While I've yet to complete a boat I am currently working on six of them. Should I not live to finish them I've already experienced much joy from each step along the way.

My first attempt was a Teal hull. I decided it would be an ideal boat for my son to sail and fish from. So I decided to build another hull and finish them together. Carelessly I made identical starboard sides instead of mirror images, so I made port sides for two more and am now finishing three together! Am I disappointed? Absolutely not. I'm having a ball building and just laughed at my mistake.

Later I almost did the same on the sides of an 18' sharpie when I remembered the Teal experince in time.

In addition to the three Teals and the 18' sharpie, a Douglas Alvord Maine Sharpie design, I'm also building Jim Michalak's Piccup Pram and Roar II in stitch and glue.

I am in need of sources for goosenecks for attaching the boom to the mast, and also am wondering if Bolger ever designed a kick-up rudder for the Teal?

Landis Fields, 2519 So. N-52, Owosso, MI 48867.

Can I Please Build Another Boat?

My part of Texas is kind of thin when it comes to low tech, do it your self, having fun in a boat because it floats, type of activity. It's a comfort to read your magazine and find other people who have the same crazy ideas I've had about boats and boat building. The cautionary tales and how-to articles are a pleasant substitute for learning things the hard way

I have a Bolger/Payson Surf skiff that I row and sail in the local (less than 200 miles away) lakes. My current project is a smaller lighter stretched pram for my son and me to build and mess about in together. It is in the cardboard model, "Aw, honey, can I please build another boat"? phase.

Tim Cowden, Bryan TX.

Can't Stop Reading Them

A friend of mine loaned me a bunch of back issues of your magazine and I can't stop reading them. Great resource for a neophyte like me. Here's my check for a first year subscription.

Vi Beaudreau, E. Granby, CT.

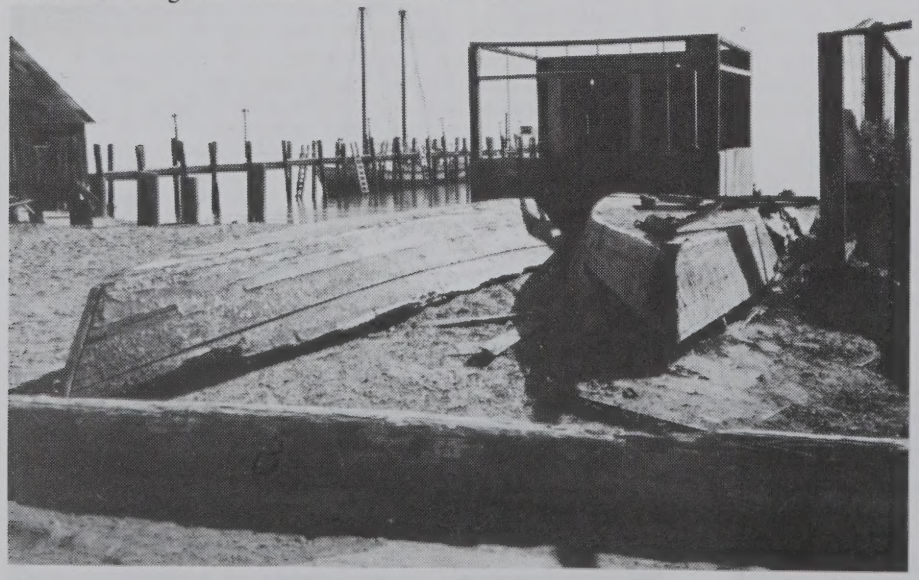
Gunkholing on Bay and Delta

By Peter Evans

The two wherries, *Hefley* and *Sierra*, clawing their way "uphill" with a light breeze against a flood current. San Francisco and part of the Bay Bridge are in the background.

The Ballast Boys (Jim Lawson and John DeLapp), over 500 pounds of power in a 150 pound boat, a peapod built by John DeLapp. This boat handled 2 to 3 foot swells and winds gusting 20 to 25 knots.

The *Alma* came alongside the old wharf at China Camp where shrimp boats used to unload. Boats in the foreground were not used on this cruise.



Bill Doll is Curator of Small Craft at the San Francisco Maritime National Historical Park. If you like traditional boats and are in San Francisco, his Small Boat Shop on the Hyde Street Pier is the place to visit. There is almost always a boat under construction and quite often a class will be in session: a seven-day class on the woodstrip kayak with Ted Moores, a five-day class on fundamentals of boatbuilding with Greg Rossel, a weekend class on oar-making with John DeLapp. Part of Bill's job is to develop programs for the Park Service, classes and events relevant to traditional small craft.

So in the summer of 1994 when Bill asked me to organize a one-week cruise for traditional rowboats, I knew I was in good company. He gave me a lot of leeway: Plan a five-day cruise for next June; start in San Francisco and head east into the delta of the Sacramento and San Joaquin Rivers; the Park Service will supply two motorized followboats for safety and will handle administration and logistics. That was about it, except that I was promised the title of "Instructor." Of what? Gunkholing?

Anyway, my role was to examine courses and campsites, consider currents, tides, and wind patterns, evaluate my rowing experiences on and about San Francisco Bay and, without indulging in too many sea stories, come up with some reasonable recommendations of where to go and when. Since planning is often half the pleasure of boating, in some instances, more than half, and since anything is easy if it's a year off, I welcomed my promotion to Instructor.

The first consideration was where to camp. For many years I have done my boat camping in an 18' Banks dory, the *Audrey E.* A dodger to get out of the wind, a Coleman stove, a can of beans and a sleeping bag and I can be quite comfortable. But not many rowers have such luxury accommodations, traditional rowboats, as a rule, being designed more for work than for sleeping. As for camping ashore, San Francisco Bay, the Sacramento and San Joaquin Rivers provide few campsites. There is plenty of riprap, tules, mud flats, industrial development and private land, but few public camp grounds.

The solution came in the form of a unique traveling exhibit maintained by the Maritime Museum, the scow schooner *Alma*, last of working sail on San Francisco Bay. Between 1850 and the early 1900's there were hundreds of scow schooners on the Bay, the Delta, the Sacramento and San Joaquin Rivers. Now there is one, the *Alma*. Built in 1891, she's a "square-toed schooner," a gaff-rigged barge if you will, 85' long including bowsprit, 23' wide, flat bottomed, with a 4' draft. She weighs 43 tons. In 1957 the *Alma* was rescued from oblivion by the State of California. In 1978 she was transferred to the National Park Service. Now she cruises her old waters as a working exhibit of the Maritime National Historical Park.

I asked for her as a traveling campsite, and my request was granted. This was the key that really unlocked the project. The *Alma* provided a deck to sleep on, a hatch to cook on, a hold to store food and clothing, a refuge in

rough weather, a tow when needed and no little excitement as her captain, Al Lutz, maneuvered her in and out of narrow channels, dogholes and tight marinas that were never designed for the day of working sail.

The next consideration was distance between campsites. A strong rower with a decent boat and favorable conditions can make 20 to 30 miles a day. The average rower, though, can hardly be expected to do this. Generally 10 to 15 miles a day, say an average of 12, seems reasonable for pleasure rowing as opposed to masochism. This permits a civilized hour of departure and allows time to do something other than rowing along the way, bird watching, swimming, wine-tasting, snoozing, what-have-you. Most important of all, a 12-mile day usually permits a cushion for error, wise rowers following a precept more common to the Age of Sail than Engine: Always plan on going toward a port, not necessarily to it.

I settled on a course that averaged a little over 12 miles a day. The first three days would be a bit long (14,18, and 14 miles respectively), but according to my calculations there should be a strong flood current plus wind to assist us on each of these days. On the fourth day, when we left the bay and entered the river system, distances were shortened to 12, 7.5, and 10 miles for the last three days.

In practice these distances proved reasonable for the conditions we met, with the exception of the first day, when, as we shall see in a moment, a miscalculation at the start led to a cascade of problems and a situation that could have turned ugly had it not been for the safety factor of follow boats. Aside from a bad start, though, the itinerary tended to support the truism that a rowboat is plenty fast enough, if you're not in a hurry.

Currents in San Francisco, San Pablo, and Suisun Bays form a series of rivers, some broad, some surprisingly narrow, whose speed and direction of flow vary greatly at any one time and whose borders shift with the tidal hour, wind, freshwater runoff and other factors more subtle of measurement. These currents may run 4-6 knots; where they meet they can create riptides and standing waves. The first three days of this cruise were strongly influenced by currents.

All boats on this trip were advised to carry sail, hardly unusual in a traditional workboat. Without auxiliary sail, long reaches of open water can become tedious in a rowboat and going upstream on rivers can be next to impossible. (Currents on the Sacramento and San Joaquin Rivers in June were running 3-4 knots owing to heavy rainfall in the spring.) One of the joys of a traditional workboat with oar and sail is the satisfaction of fine tuning between ash breeze and Aeolus to fit the conditions, the strength of sail, the stimulation, the relief from hours of pulling versus the security, stolid dependability, rhythmic peace that can return when the sails are down and you're back to oars. But to return to the story, all boats on this trip carried sail, and we sailed at least as much as we rowed.

On the morning of the first day, five of the six small boats that were signed up for the cruise left Hyde Street Pier under sail rather than oar. This was a mistake. They were dragged off course when early morning wind proved too light to get them across a narrow branch of south-flooding current that hugs the San Francisco waterfront. Had they rowed a half mile north, they would have met another branch of the flood current that heads east and

The scow schooner *Alma,* last of working sail on San Francisco Bay, served as served as a traveling campsite for the cruise.

north toward San Pablo Bay and China Camp, the day's destination. By the time the crews started rowing, though, and clawed themselves out of the hole that the current had put them in, the morning cushion was gone. The flood current in the north bay was approaching maximum. The wind was freshening and shifting along the projected course from west to northwest. And ahead lay The Brothers!

The Brothers are two small islands located along the main ship channel between San Francisco Bay and San Pablo Bay. Sometimes the water at The Brothers can be smooth as a gull's wing, but when the current is running strong a sizeable area of riptide occurs. If the current is working against a contrary wind the conditions are aggravated. When the boats arrived at The Brothers, a maximum flood of 5-6 knots was pushing against a northwest wind. The water was ugly. For the rest of the trip, 'Woe to the Brothers!" was a catch phrase for hair raising conditions.

Once past The Brothers, were they home free? Hardly! Current tables showed a light current flooding north from The Brothers past China Camp until about 1300 on that day, under normal conditions . But conditions were not normal. Heavy runoff from the spring rains caused the ebb current to start early and run strong. So, the crews found themselves pulling against the flow instead of with it. Finally, the wind circled into the north as the day progressed, straight off the bow for the last few miles, and the chop in shallow water off China Camp was short and steep. All this during the last 3 to 4 miles of a 14-mile row! The two follow boats, a restored Coast Guard surfboat named *Buff Duck* and a nameless Boston Whaler runabout, saved the day.

The felucca, well ballasted and designed for sail rather than oars, managed to sail into China Camp, but only after a series of long, arduous tacks. Both 19' wherries were towed in, one of them, the *Hefley* having been dismasted. The sailing dinghy *Walker* was towed in leaking heavily. John DeLapp's peapod, on her maiden voyage, was dismasted and reported a particularly wild time off The Brothers, but she came in under her own power, that is, with John at the oars. We note that her crew on this first day was John DeLapp and Jim Lawson, known for the rest of the trip as the Ballast Boys. Together they weighed over 500 pounds. Their boat, the peapod, soaking wet, was pushing, maybe 150 pounds. A pretty good traditional design!

Even the *Alma* had to drop sail and come in under power. But finally, around 1500, all boats were accounted for, nobody appeared to be lost, and thereupon the day was declared a success, of sorts. There was fatigue. Repairs were needed to masts and oars. The *Walker* had to be stowed on the deck of the *Alma* for the rest of the trip. Such are the fortunes of boat people!

China Camp was sheltered from wind, sunny and pleasant. The *Alma* came alongside the old wharf where shrimp boats used to unload. The Park Service staff and volunteers fed us a delicious dinner. We talked and began to know each other better. And there was a glorious full moon that night.

That first day came close to serious trouble because I didn't judge the early morning wind and current correctly and, as 'Instructor,' advise the rest of the party accordingly. But the truth is that I didn't foresee the problem because in my own boat, a Banks dory, I almost always row away from the dock and put up sail, if I put it up at all, when I am underway and have plenty of room. Mere habit, and I saw no reason to push my habit on others when conditions did not appear to require it. My son and I, therefore, rowed across the south-bound current that first morning and were soon riding the big current north; for us, the rest of the day went as planned. We were lucky. About the best I can say for the instruction is that I think we all learned something.

Fortunately, my estimates of wind and

The five small boats that made the full cruise at Brannan Island State Park, Banks dory, *Audrey E.* (with yellow rain cover) in farthest slip, the felucca (lateen sail), the peapod, the *Hefley* (rolled red sail), and the *Sierra* (rolled white sail). The steering column of the Boston Whaler followboat is in the foreground.

The restored Coast Guard surfboat, *Buff Duck*, one of the two followboats. John Muir, Asst. Curator of Small Craft, is at the tiller. Mike Jablonowski's dog made the full cruise.

The happy gunkholers.

currents were more reliable for the next three days and the boats covered some 44 miles without any great surprises. On Monday, the *Hefley* was dismasted for a second time, but her crew managed to maintain some drive from their broken rig by holding the sprit in hand with part of the sail extended. On Tuesday the peapod reported a rooster tail astern when surfing down the wind swells in Suisun Bay. On Wednesday the wind dropped unexpectedly as we entered the Sacramento River. Then it reversed direction completely, blowing downriver for a time, but not for long. But on Thursday, the fifth day out, our world went wild again.

Thursday began with gentle rain, switched over to vigorous wind, and then went back to heavy rain. In the morning, we crossed from the Sacramento River to the San Joaquin River via Threemile Slough. Downriver current on the San Joaquin was about 4 knots. Upriver wind was about 25 knots. The chop was steep, the river ugly. The *Alma*, the felucca, the dory and the peapod made a fast trip up the river; the 43-ton *Alma* sometimes wing-on-wing, the felucca handling heavy conditions easily once she got out of the slough, the crew of the dory and the peapod concentrating hard to keep everything in balance. (It was on this day that another famous quote from the expedition originated relative to the peapod: "Trim a bit to your right, John. No! Man! Just your elbow!") The two wherries and the followboats brought up the rear.

Nevertheless, by midafternoon all small boats made it safely into Spindrift Marina, just in time for a startling disappearance of wind. It disappeared into a vacuum of silence, just like someone "up there" had turned off a switch, while an immense black cloud approached from the west. Bill Doll, always cheerful, said it looked to him like a tornado, but we old Californians assured him, "Nah, we don't have tornados in California. Earthquakes, yes."

Before the wind vanished, though, the *Alma* came on site, and she beat any tornado, hands down, for livening up the afternoon. Spindrift Marina is a fine anchorage with a fuel dock, supplies, a store, a restaurant and covered docks, but she's sheltered behind a tule island on a narrow channel of the San Joaquin River with a considerable current running through the channel. My plan had been for the *Alma* to anchor outside the tule island and for the small boats to provide ferry service. However, the Harbormaster, Phil Ness, said he thought the scow schooner could anchor safely on the near side of the tule island, which would simplify our logistics and make a much friendlier atmosphere. Phil got on the radio to Capt. Al Lutz and advised him about the *Alma*'s approach. The channel separating the tule island from the covered docks of the marina is all of 100 feet wide. The *Alma*, with a 15' bowsprit, is 85 feet long and 23 feet wide. She has two diesels and twin props, but there are limits to what two diesels can do in a tight space when 43 tons of boat start to swing on wind and current. Al Lutz tested those limits.

The plan was to bring the *Alma* in upwind, sails down, of course. With 2 to 3 knots of current at her stern she would come in pretty fast to maintain steerage, drop the bow anchor close to the tule island, then back down to set a stern anchor. The plan worked well until the bow anchor pulled loose with about 100 feet of line out. As the current took hold, the 43 ton schooner began to swing, ponderously at first but then more nimbly. By deft handling

of the engines and her barn door rudder, Al Lutz avoided the fuel dock, by two feet maybe, while his two-man crew frantically worked the windlass so the schooner could maneuver without snarling her bowline.

They made it, but in the process the 85' schooner did a 180 degree turn in the 100' channel. The 180 was OK, but the approaching 360 was not. Al backed her off again and pulled her out of the 360, but gradually wind and current were getting the upper hand. At one moment, the *Alma*'s bowsprit was within seconds of holing the covered dock, yachts and all. With one final magnificent propwash, Al brought her up parallel to the docks and laid her alongside the pilings on the outboard side, just like that was what he intended all along, with maybe just a little pizzazz. The pilings groaned but held and allowed about a foot of space to remain between the 43 ton *Alma* and the sterns of some very expensive yachts.

Throughout all this, Phil Ness, the Harbormaster, was cool and alert. No yelling. Soon as the lines were passed, he congratulated Al Lutz on a professional job well done and, better yet, told him he could leave the *Alma* right where she was. Capt. Lutz accepted the offer. Shortly after that, the big black cloud arrived, and it wasn't even a tornado. Just more rain.

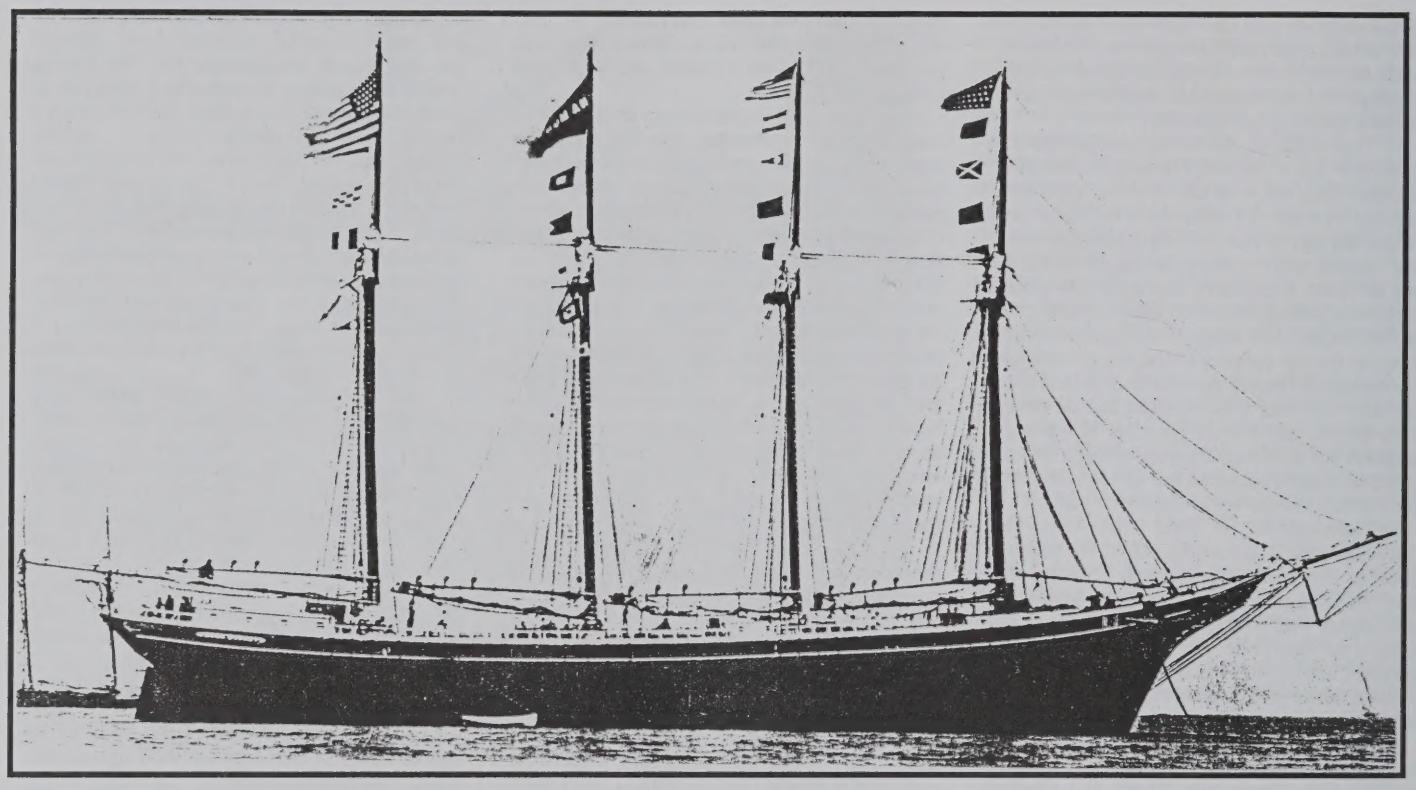
So much for the effects of wind and current on this gunkholing expedition. I haven't said anything about tide. There was a seven foot difference between high and low tide during the trip, but its influence on our small boat movements, except when leaving China Camp on the morning of the second day and in the sloughs during the last day, was more subtle than the forces of wind and current. In fact, the influence of the tide at China Camp was misleading. It didn't check out with "the books."

China Camp fronts a large area of shoal water. At 0600 on Monday, June 12th, the *Alma* was on the bottom and an apron of mud extended 100 feet out from the sand beach. No problem, this was included in our plans. About 0700 the tide commenced to riffle in over the flats. At 0900 the small boats were free. At 1000 the *Alma* lifted off. The tide had been coming in then, for about two hours before the small boats left China Camp. Logically, this should have caused a flood current, a lift for the boats heading north across San Pablo Bay. In fact, fresh water from rivers near the head of the bay overrode the tide and caused several knots of ebb current on the surface, while the salt water tide slipped in along the bottom. This was not in our calculations for the row.

On the rivers and in the delta, I had anticipated the influence of tide, even though it was difficult to predict its effect on current at any one location. The tide is felt all the way to the city of Sacramento, 100 miles from the Golden Gate. The level of the river rises and falls with tide, although the downstream current is continuous below a shifting point near its mouth. In the maze of sloughs that form the Delta, though, tide dominates over river current. On a flood tide, the current in a slough may flow north, while a short distance away the current on the river, or a section of the slough that "feels" the river, will be flowing south.

This became particularly noticeable on the last day when we left the San Joaquin River and entered a series of sloughs and cuts on our way to our final destination. Not having rowed this section previously, I could only guess which way the current might flow on a falling tide. My guesses proved correct, though, and we had favorable currents via Fishermans Cut, False River and Taylor Slough on our way to the San Joaquin Yacht Club. We had our last night banquet at the club, complete with after dinner speech, awards and the bestowal of the requisite T-shirt with a logo on the front of the San Francisco National Maritime Historical Park and on the back a chart of the bay titled "The World as Seen from Small Craft, 1995 A.D."

As a course, what did our six-day gunkholing expedition provide? Companionship? Humor? Yes! Without these, little of anything works. Satisfaction of the itch to see what's around the next bend? Yes. Firsthand evaluation of some traditional boat designs, felucca, wherry, dinghy, dory, peapod, scow schooner. Most important, maybe, it gave us an interval to set aside our freight of mechanical and electronic baggage and move for a time with some more elemental but not necessarily simpler forces. Bill Doll's programs preserve the knowledge and satisfaction of working with traditional small craft. Most of the programs are organized around the building or maintenance of the boats and their equipment. Gunkholing on Bay & Delta is an opportunity to put these boats to work on the water with all the variables of wind, tide and current. The experience was lively and enlightening, and it looks as though the course may become a regular offering of the Small Boat Shop.



Uncle Gust and His Boats

By Iver Lofving

My parents came from Sweden. While my father was not a sailor, many of his friends and relatives were. These men came from a part of the world and a time when waterways and the sea were still the common way to move people and goods, fish provided a major part of one's diet and so many went out on the water to catch them. Over millennia these activities had formed a rich culture of values and skills that was stronger years ago than now. I've often thought that seamanship was the earliest profession of Scandinavians, just as the priesthood was the earliest profession of the first Middle Eastern civilizations. As youths, these men participated in the last great era of commercial sail. It was remembered by them as a golden time of high experience and initiation which stayed with them for the rest of their lives. Many of their values were formed as the result of handling and maintaining offshore sailing ships. Payment for their work was a few dollars a month, the awesome experience of the sea, the fellowship of life on board and sharing in the fragile heroic beauty of the ship. As with almost all sailors, they felt there was something alive about their ships that required an allegiance as to a cause.

I was an appreciative audience for the tales of their youth. Eyes would light up and backs straighten as they told of sailing under bare poles through an Indian Ocean hurricane, or rounding the Horn in one of the great four masted steel barks. To me, they were heroic figures who gave me a code of behavior which has stayed with me for the rest of my life.

My favorite among these men was my Uncle Gust. He always had time for me. I especially remember one memorable occasion when he spent a long rainy day making a model of a square rigger for me, explaining the function of the standing and running rigging as he fitted on each line. The general logic and names of the sails, yards and rigging stay with me still. Looking back, it was an amazing feat, I suppose, for both of us. I couldn't have been more than eight or nine at the time. Uncle Gust had once been a sailing instructor in the Swedish Navy. He was in my eyes a dashing adventurer, exactly the man I hoped to be. Among his many accomplishments he was an expert mechanic, was once involved in racing cars, and was then currently developing speedboats. He came from a distinguished family 'at home,' had jumped ship here to marry a beautiful young girl, Helen, who was of Scandinavian ancestry.

Uncle Gust and Helen had three daughters. Then, according to Uncle Gust, they gave up trying to have a boy. Since he had no son, Uncle Gust said he would have to borrow me. The middle girl, Lois, was a real-life Pippi Longstocking and led the little band of us children in many an adventurous game. She was a bit older than me and mixed some mothering in with her authority. Lois always brought excitement into my life. Mornings I would go over to her house to see what she would bring to my day.

Uncle Gust had a fishing camp on Long Island right on the Great South Bay, near a town called Mastic. Getting there was the kind of arduous trip a child would like. First there was a long drive out from the city to a pier in Mastic where the car was left, and then a rowboat ride out into the marshes to the camp, which sat with one edge over the water. One could jump off the porch from a swing, and splash into the Bay.

Uncle Gust also had an aging cat boat. She was about 25' long, open, with a small deck forward, narrow side decks and continuous seats along the stern and sides of the large cockpit. There was the usual barn door rudder and the enormous single sail, old, patched, and gray. Children were allowed to scamper along the side decks, and cluster around the mast on the foredeck, as long as we had our life vests on. There was a short wide flat bowsprit which accommodated a robust fisherman's anchor and was the best of all places to be when underway. Adults sat sedately in the cockpit seats which surrounded the enormous centerboard. Off the stern hung a pulsating outboard motor emitting heat, noise and fumes when running, which, in the light airs of midsummer was often. Before starting there was always a long period of fiddling, with all of us grateful that Uncle Gust was indeed an expert mechanic.

The old boat was the first vessel that entered my affections in the way ships do. I glanced at her occasionally all through the day, as boat lovers do, to see if she was all right and to admire her. I would stand by as Uncle Gust tended to her many needs. She, and the water she floated on, were the center of our lives. We regarded her as a splendid boat, capable of amazing feats and turns of speed, if needed, although decorum always called for a sedate pace.

In her we explored the Great South Bay, fishing, swimming, picnicking, and landing on Fire Island to go beaching. In those days out there it was a blissfully empty place. Dunes, beach grass, the sky and the ocean. We never saw other people on the island, but would occasionally visit an unlocked fishing shack, sometimes use a bit of its supplies and, as taught by Uncle Gust, left more than we took. Our days had an innocent joy to them that I remember as a kind of paradise. Part of the pleasure was that Uncle Gust promised that I would surely return next summer.

But little did we know what lay ahead: The 1938 hurricane... Its enormous fury wiped out everything, even the land the camp was on. Nothing, nothing left, as if they had never been. I felt as if God had expelled us from the Garden of Eden. A kind of pessimism entered my young heart, the knowledge that good times, and good things, surely didn't last forever.

In the thirties Uncle Gust lived in a part

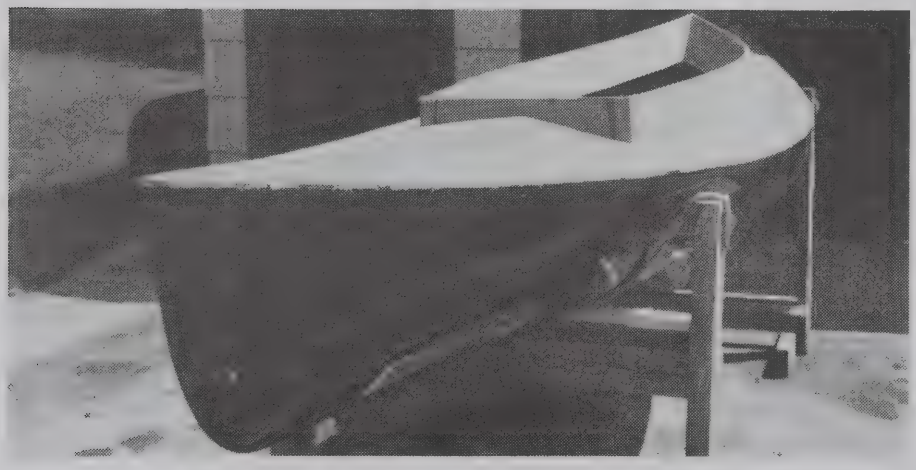
of New York City that had a splendid view of a bay. The focus of the view were several great four masted schooners, waiting for orders, or just waiting. I remember Uncle Gust rowing me out to one of them, going aboard by climbing forever up a vast wooden wall on a swaying pilot's ladder, heeding Uncle Gust's injunction to "always look up" and visiting the watchman, another Swede, an old sailor. We came with gifts of newspapers and schnapps. They went below, letting me look over the ship, with injunctions not to climb the rigging or leave the deck, except to see them in the aft cabin, if I got lonely.

To a boy not yet ten, that old ship was truly vast. Her decks rolled up and away from me like some huge, smooth, wooden prairie. Everything on her was enormous. Even the canvas of her sails was thicker and stiffer than anything I'd ever experienced. It was a strange world, everything was subtly curved and seemed twice life size. At the stem was the oddest thing of all, the enormous bowsprit, as thick and long as a great tree, sloping up and away far above the water. I peeked out through one of the hawsholes and spent some time looking at the dark water far below. There was an air of long disuse about the ship, a quiet as if the great ship had fallen asleep under some spell. In due time I got lonely and went below, where the old Swede made me hot chocolate and let me bed down in the vaguely damp luxury of the captain's bunk.

Every man has his dream, and Uncle Gust's was to form a syndicate, buy one of these great vessels, live aboard with his family and go coasting. To him and his friends it seemed like a big, but reasonable, undertaking. The prices for these ships were ridiculously low, and besides, they were splendid vessels, wonderful things to own in their own right. Once we had her, a use would no doubt be found for her.

The dream never materialized. The second World War started and gradually everything changed. The spell of the depression dissipated and in a short time almost all my father's seagoing friends, awakened as from an enchanted sleep, were crewing on ships crossing the Atlantic at the risk of their lives. Uncle Gust got involved in the Venezuelan oil boom, sailed on several convoys and was torpedoed twice.

After the war, of course, everything was different. Uncle Gust moved to California, we lost touch with him, and one day we heard he was lost at sea. I have never been to Mastic again. The great, four-masted schooners are all dead. But I have a photo of one over my bed, taken on her commissioning day so long ago. I often look at it and wonder what would have happened if Uncle Gust's dream had come true. Sometimes she seems to actually be straining at her anchor line, her nose pointed right into a smoky sou-wester.



An Evolutionary Step

By Hugh Horton

Ron Sell and I have converted two more open canoes into decked sailing cruisers. The hulls from Bell Canoe Works (Wisconsin) are 14'x30" and 15'x34."

As you recall, I think, we're involved in the quest for the balanced "50/ 50" cruising canoe, the sublime craft that sails sweetly and paddles, with a double-bladed paddle, just as well. One path is to use suitable production hulls. We're lucky. Dave Yost has drawn them. Bell has built them.

Evolution of solo sailing cruising canoes zenithed, it appears, in the 1880's and fizzled by the 1900's. After 1886 the creativity that had been applied to 50/50 boats seems to have been diverted to racing sailing canoes. Now, in the late 1900's, we strive for even more versatility and capability than the pre-1886 50/ 50 boats. We add the notion of "user friendliness" which, to us (besides marketing computers), means comfort, ease of use and safety.

These boats should be so comfortable we'll want to stay aboard late, even if we paddled away before dawn. This isn't a kayak in which you are wedged and fantasize stretching your back and legs after an hour or two. This cockpit will hold a facsimile of our best seat: office chair, reading chair, car driver's seat, snoozing lounger, our choicest spot to sit. It must offer adjustment from a near straight up power paddling position to a reclined sailing/sprawling position. The cockpit must have width for squirming and to shift our live-ballast bodies. It must have length for livability and for an emergency passenger.

Along with aerospace materials, we try to use current aerodynamic and hydrodynamic thinking. The hull material is Bell Canoe's "Black-Gold" schedule of carbon and Kevlar. This production lay-up is their strongest and toughest, not lightest. By choosing championship freestyle boats, paddling performance, other than sprinting, is assured. These hulls have the flare and rocker we need for sailing. As open canoes, the sheer and topsides have been developed for freestyle competition. So we marked the sheer cut on the little boat at the top of the shoulder. Ron cut the larger boat's sheer just below it. On each this gives good volume and buoyancy and a sheer low enough, given the beam, for pleasurable paddling. The decks are a composite of quarter-inch Spanish cedar (very light, picked from old Hugh Rader Lumber inventory) with Kevlar beneath and S glass above. The cockpit coaming is doubled eighth-inch lauan doorskins. The rim is Spanish cedar. All tapes are diagonally braided Kevlar.

Light, strong, low maintenance craft is the result. Without sailing rigs, the weight of the little boat is 37 pounds; the larger is 43 pounds. Although I haven't built their rigs yet, using Osprey's technology would add less than 20 pounds. This includes the sail, mast, yard and sprit boom; leeboard and bracket; rudder and steering rods. Upping tech will reduce this to less than 15 pounds.

From the top:Kayann enjoying her modified (decked) Bell Wildfire, 14'x30". On display at Ron Sell's Unadilla Boatworks, from left: 15'x34" decked Starfire in process, 14'x9" decked Osprey, 14'x30" open Wildfire. Unfinished deck set onto Starfire. Some solid comfort. Kayann's *Black Ibis* has become everyone's favorite.

Lightweight is user friendly. Whitewater kayakers and flatwater canoe and kayak racers enjoy this. Lightweight doesn't deter one from lifting the boat off the car for a half hour sail or paddle. It allows the boat to be stored safely in slings indoors or tucked under a deck or eave. It lets you unload the boat at the shore for a night's camp and then carry it easily over slippery logs and boulders above the high tide line. Or, since it's so strong and tough, hopefully you can just brutally drag it, fully loaded.

More user friendliness is in the sailing gear's effectiveness and simplicity and in its low mass where it counts, at the top of the mast, yard and outboard end of the sprit boom. We want a feather of a rig, but it must be a feather that can fold and stow nearly instantly. Our feather must be strong enough to support an athletic 300-pounder sitting on the deck to windward, driving the little boat like a demented sumo windsurfer (lip curled in ecstasy as the sheet saws a bloody groove in his hand).

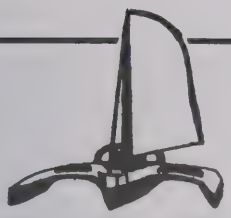
Back ashore, the individual parts must be strong enough to tolerate, say, a heavy footed stumble-upon. "Individual parts" you say? "Simplicity?" Yes. But more than one part is just that *too* many. Simplicity is user friendly. Complexity is not. Safety and reliability are user friendly. We want a rig that can be struck and stowed in wind and gray waves, not one that can only be rigged ashore or on a sunny pond.

The sprit boom's essence is user friendliness. It is a mental and physical stress reliever. Its minimal mass and low aspect ratio on our boats and its characteristic of controlling clew lift helps prevent, when running, the tail from wagging the dog, you in your little boat being wagged by an adrenaline blasting bag of oscillating windage. Since we aren't working extra to keep the clew down, sheet tension is reduced greatly. (Our heavy friend's fingers would have been red stumps with a conventional boom.)

Building our house is slowing spar development, and I'm waiting for more samples from aerospace contacts anyway. Although we can supply custom boats, we're just as happy to provide information to interested readers.

Hugh Horton, 29474 Old North River Rd., Mt. Clemens, MI 48045.

Right: Jenny and Melissa demo the Starfire's stability.
Below: The 15'x34" Starfire decked.



Trimarans...Sail Fast, Sail Flat

Part 7: Dick Newick is perhaps best known for his big ocean racing trimarans that have been winners in the big leagues of sail racing like the OSTAR trans-Atlantic. But Dick has also designed one of the few smaller trimarans to go into production, the Tremolino. John Olin of the Tremolino Boat Company offers this Newick design in several formats. Herewith his comments on the folding T-Gull version.

"During the 1992 *Sailing World* Speed Test, the experts concluded that the T-Gull 23 was "a wild little rocket" that had "the smoothest ride and by far the liveliest - the most responsive to the helm" when compared against larger folding trimarans costing more than three times as much.

This little wonder, the T-Gull 23, didn't happen overnight. Tremolino Boat Company has evolved its Dick Newick Tremolino 23 (and Argonauta 26) into an affordable folding trimaran (8 foot wide for trailering or marina) which can sail at wind speeds up into the 20's.

It also fits your pocketbook. The weight of the boat and trailer is 1500 pounds so no special tow vehicle is called for, and you can forget marina fees. Launching the T-Gull 23 is easy, nothing has to be removed for road travel. Even the motor can be left on its bracket (as well as being usable when the boat is folded in the marina). Raising and lowering the mast is simple using a permanently installed A-frame gin pole.

Half-moon amas designed by Dick Newick have over 100% buoyancy in each hull, giving a very stable platform. The outboard side of each ama is an extremely concave surface (hence "half-moon") providing additional dynamic lift when the boat is being pressed.

Fully battened main and roller reefing jib with control lines leading back to the skipper are ideal for single handing. Barber haulers, boom vang and positive mast rotation provide precise sail control for maximizing boat speed. Hardware is provided by Harken and Schaefer.

The Tremolino T-Gull 23

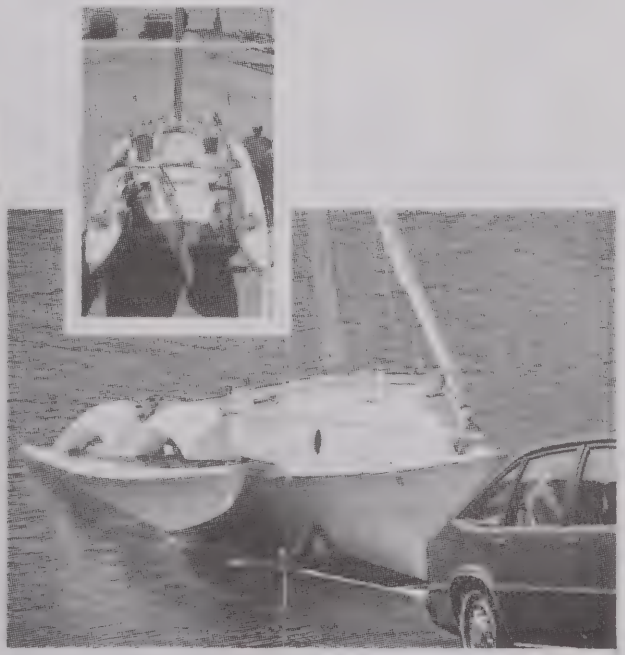
Accommodations may appear small at first look, but have been used by single handers and couples in extensive cruises to the Bahamas (honeymoon) and in the Fiji Islands (2 months), and singlehanders on Chesapeake Bay and the Great Lakes regularly sail over 1,000 miles a year. There are two canvas bunks (fore and aft) 6'3" long, with sitting headroom in the forward cabin. An optional PortaPotti and Origo alcohol stove give you cruising necessities, all of which can be carried on shore. A boom tent over the cockpit and trampolines can provide a large lounging area when at anchor.

The T-Gull 23 is currently (January 1996) priced at $16,250 (without sails or trailer). The standard Tremolino, same boat but with demountable (not folding) amas for trailering, is available for $9,975 (without sails or trailer). A finished main hull with complete adaptor kit for fitting with standard Hobie 18 rig and hulls as amas is offered at $5,975."

John Olin, Tremolino Boat Compnay, 411 South Sixth St., Chaska, MN 55318, (612) 448-6855.

Specifications:

LOA	22'10"
LWL	21' 0"
Beam (max)	18'4"
Beam (folded)	8'0"
Draft (board up)	15"
Draft (board down)	4'6"
All-Up Weight	1075 lbs
Sail Area	257sf



Homebuilt Tremolino

By Robert Chamberland

Yes, I built my Tremolino. It is not the "T-gull" but uses the Hobie hulls as amas. The whole thing comes apart and loads onto the trailer for transport.

My Tremolino was completed in the spring of 1984 and has been in the water six of the summers since. I built it when I was living in Denver and had it on a mooring on Dillon Reservoir in the mountains above Denver. Here I've had a slip two summers and it was on a mooring two summers. "Here" is the west bay of Grand Traverse Bay. If you look at the map of Michigan it is a mitten. The bay is between the "little finger" and ring finger.

The hull is Bruynzeel ply over fir (very expensive clear fir) frames and stringers, all encapsulated in West System epoxy. The main hull is fiberglassed six or eight inches above the waterline. The hull is in good condition. It has required a couple of repairs over the years. The false stem was a piece of flat grain Douglas fir that was in my garage; it started checking the second year and I repaired it then but should have let it dry out a little longer. It is repaired again and well sheathed in glass. The repair needs repainting since there is some peeling. I used wet or dry sandpaper and should have used 80 or 100 grit. It doesn't amount to much. The hull was coated with two part Interthane Plus paint but the repairs are painted with Interlux Brightside Polyurethanes. Bottom paint is VC17, new on the hull, but needed on the amas (Hobie hulls).

The photo of the boat on Dillon Reservoir (yes, with the fenders dragging!!!) shows the cabins and deck finished bright. The Colorado sun was too much for varnish so the cabin was refinished with enamel. The deck, hatch covers and sheer rails remain bright. As usual, the hatch covers and sheer rails need varnish. The dagger board and rudder need more varnish but not complete refinish. I made the dagger board from red cedar that was laying around. I used the cedar as a trial of my craftsmanship. I intended to make a second of mahogany but the cedar dagger board has been just fine, so there it is. I did use mahogany for the leading edge. It is epoxied and I think I put glass on it. The rudder came from John Olin at Tremolino Boat Co. and was varnished. I think I have since coated it with epoxy. I'm a little fuzzy about that.

All of the various parts of the Hobie 16 go with the boat. I'm not sure of the year of the Hobie 16 but I believe it is 1980. The Hobie hulls (amas) are in fair condition, perfectly functional but cosmetically flawed. I did not notice damage when I first bought the Hobie, but it was there. I had the repair done but the shop could not get a decent match of the gel coat so they put on a complete new gel coat over both hulls. This gel coat blistered below the water line over the first summer so I sanded off all of the new gel coat below water line and put on three coats of West epoxy and finished with VC17. There has been no problem since, however, the hulls need a good cleaning and new VC17. If you look at the photo of the boat taken at Lake Dillon you can just barely see the VC17. There are bungs and dings here and there.

The rig is from the Hobie 16 plus the parts supplied by John Olin at Tremolino. The kit from Tremolino included new mainsheet system, vang, frame for tramps, tramps and jib sheet blocks. All of the rig is in good condition. All wire was replaced a couple of years ago and there is one season on the wire. I have added an inexpensive jib furling system and a new jib. The jib furling system tends to wrap the sail around the slack forestay if you furl going downwind but it does work. I hated the battened jib when we were coming in or going out. I have added jiffy reefing and slugs to the main halyard for catching the gadget at the top of the mast for the reef position. (You can see the reef and jiffy line on the photo from Lake Dillon.)

The mast is a real bear to raise without a crane because of the way it sits over the forward cabin. We use a tackle system and gin pole (if that's the right term). The forestay attaches to the end of the gin pole (which sticks out like a boom at the front of the mast) and the tackle goes from there to the forestay fitting at the stem. I raise it by hand as high as I can while my wife is pulling on the end of the tackle arrangement. Then I finish raising it while my wife prevents the mast from swinging to the side. It is harder to describe than to do.

It's kind of a pain to rig this thing, but my wife is limited physically so this is what we do at the launch ramp. John Olin's literature tells us that with experience two people can get the boat rigged and in the water in two hours. We've always needed the better part of a morning but then I was mostly working alone except for raising the mast and putting on the Hobie hulls. I think two men who really knew what they were doing could get it in the water in two or three hours. If the frame and tramps were not completely dismantled, that would save a lot of time.

The mainsail tore out a reef which was improperly done. (I hadn't pulled the 'jiffy' line tight.) It has been well repaired by a local sailmaker. The orange isn't a perfect match but it really is just fine. The battened jib is in good condition and the new jib is, too. I had a local canvas shop resew all the seams on the tramps so they are in very good condition.

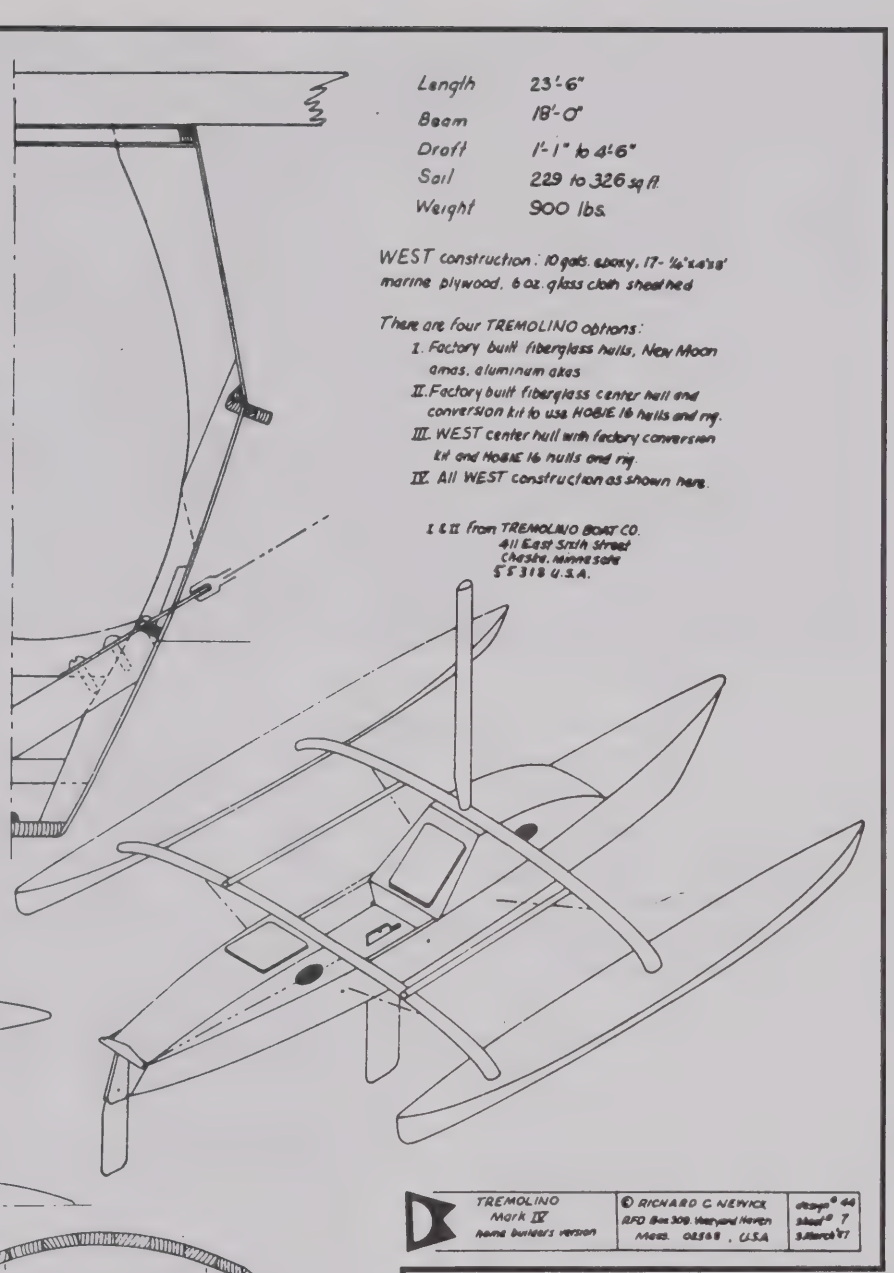
The trailer came from John Olin also. He used it a year or so before I got it. The tires are in good shape although they are eleven or

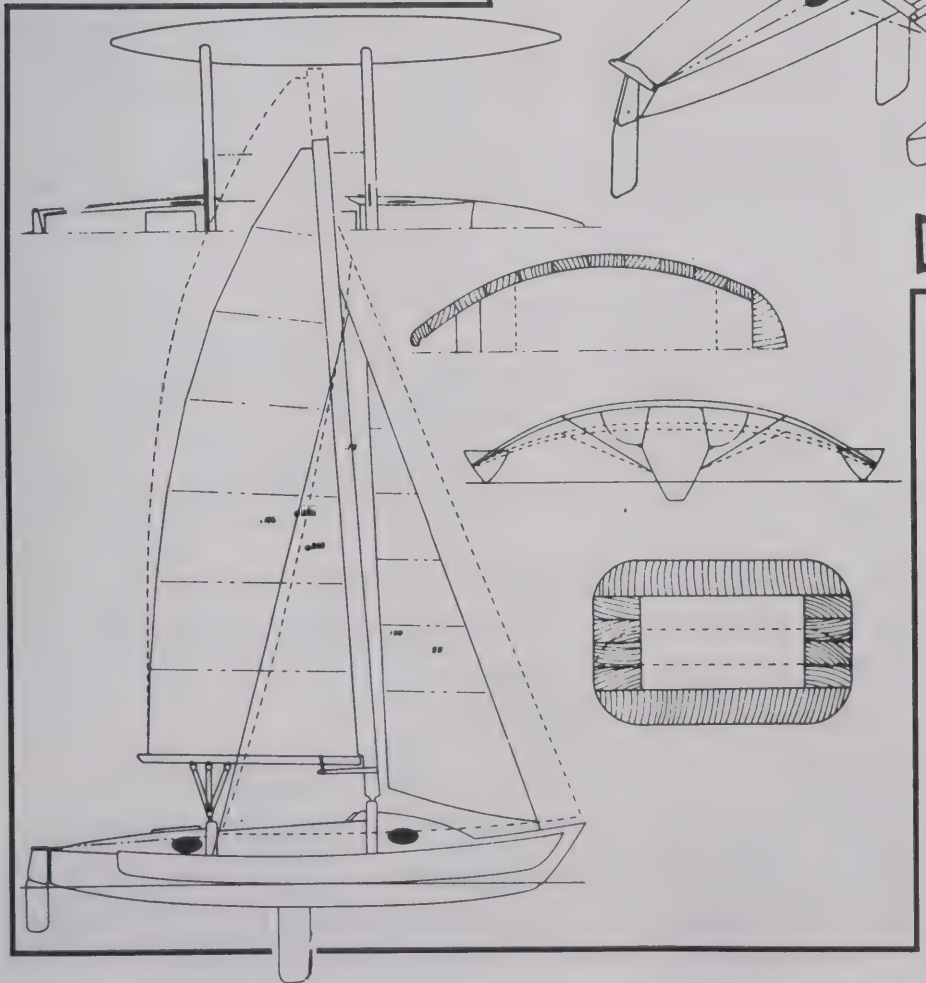
twelve years old. I have a spare wheel and tire which I bought with the hardware kit. The hulls rest on plywood and frame "boxes." The originals I built in 1984 finally gave out last year. The new ones are of treated ply and treated southern yellow pine. They should be good for the next ten or fifteen years. The paint on the trailer is chipped, peeled and there is some surface rust but it is sound. It seems that every spring I have had to fiddle with the wiring to get the lights to work but the fault is usually with the harness coming from my truck.

I have not had the boat out in really windy conditions since we've moved to Michigan (except for the day the reef blew out). At Dillon there were usually heavy wind conditions for part of every day. In really heavy air the Hobie hulls tend to dig in. That is the main reason Dick Newick developed the new amas. At Dillon I've sailed with the reef in and the boat went like a bat out of hell and didn't dig in. I had thought to build the new amas at the time they were being developed, but he said they were not really going to be suitable for home construction. I believe in the end they actually could be built in a home shop.

Although this was the first boat I have built, I worked carefully and spent a lot of time in the worrying chair to really think out how I was going to go about things. When it was first completed it was a beautiful boat. It still is a very nice looking boat but it is eleven years old. I intend to refinish the stem this spring and leave it to the new owner to do the brightwork.

She's for sale as described for $2,500, Bob Chamberland, 1175 S. Peck Rd., Suttons Bay, MI 49682, (616) 271-4231.





Plans:

Dick Newick sells plans for building the complete Tremolino 23 for $500. Plans for building the main hull only for outfitting with Hobie 18 rig and amas, using the adaptor kit from Tremolino Boat Company, are $250.

Richard C. Newick, 5 Shepherds Way, Kittery Point, ME 03905, (207) 439-3768, FAX (207) 439-8591.

Coming Next Issue...

We'll have more of Dick Newick's designs, featuring his 28' Spark ("a three hulled Rozinante"), 26' B2 ("back to basics") and a preview of his new 25' T-Gull 25 now in prototype stage.

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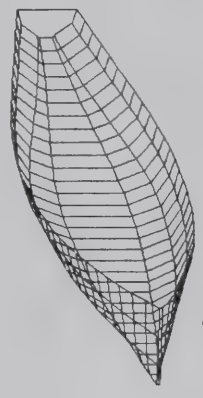

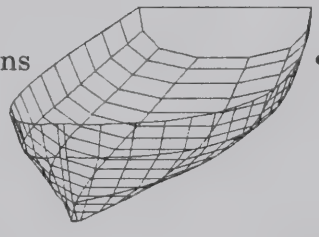

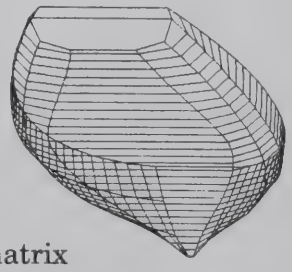

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Fiji

By George Surgent
Seaworthy Small Ships 1995

It was two weeks before this year's Mid-Atlantic Small Craft Festival and time was running short. I had not yet begun preparations for the 50 or so models I would need for the model boat building activity and feelings of anxiety were creeping in. Earlier in the year I worked up a few model trimarans with solid wood hulls. They turned out to be heavy dogs that preferred to bury their lee ama (outer hull) and cartwheel before flying a hull. Needless to say I had pretty much given up on the idea until late that sleepless night.....

FOAM!! Like a cool zephyr after a muggy, dead calm, the solution struck. Foam, extruded polystyrene foam, to be exact. The 1/2" blue stuff that's sold in 4'x8' sheets as home insulation (marketed by Dow as Styro Foam). Remembering I had a scrap of it tucked away, I jumped from bed and dashed out to the shop. About an hour later I emerged ready to launch my multi-hull experiment. Again, disappointment struck. No wind, not even enough to blow out a match. Wide awake and too wound up to sleep, I decided to walk down to the cove and at least float test the little tri in the moonlight

E-E-E-GAD!!! Upon placing her on the water, and I do mean on, her lightness was immediately evident. With amas just kissing the surface she ghosted beyond my reach. I stood dumbstruck watching her glide away on the mirror smooth reflection of stars and moon. After retrieving the little gem with my canoe, I wandered off to bed with anticipation of sea trials in a measurable breeze.

Indeed, Fiji, named in honor of her South Pacific ancestry, performed well beyond expectations in a variety of conditions. In light to moderate winds with the sail set about thirty degrees to the centerline she'll skate across the water, flying a hull. As the breeze freshens you'll need one or two extra crew, in the form of 10D galvanized nails, to hold her down. Since it is relatively easy to make holes in the foam, experimentation with crew placement is simple.

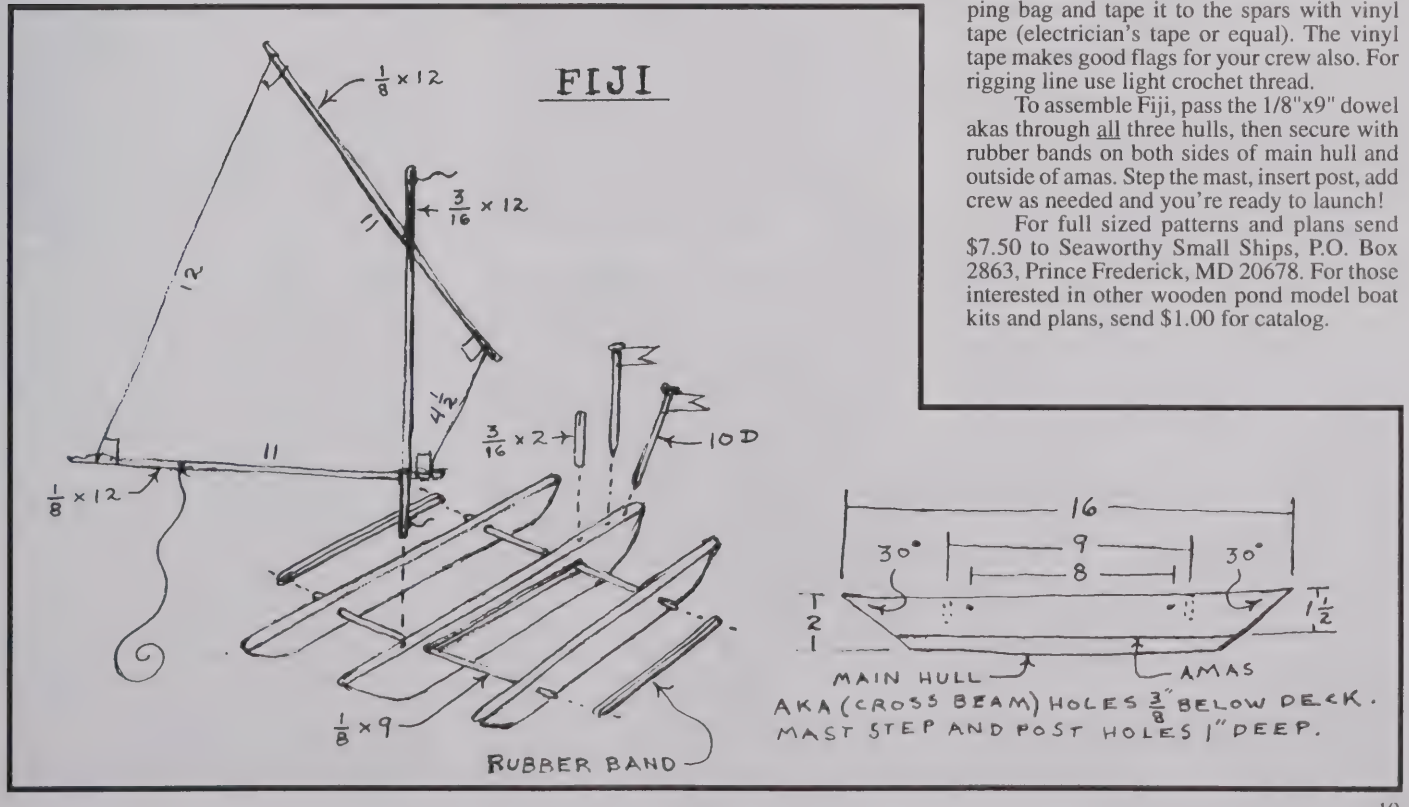
Fiji flying a hull. Note flotation pod on top of mast. (Photo by Marla Surgent)

As can be seen from the sketches Fiji is a true double-ender. You won't have to decide on which end to make the bow until you rig her. To make the hulls, simply score the foam using a razor knife and straight edge and break off strips 2" and 1-1/2" wide. Score and break the 30 degree angles on each hull end and you're ready to bore holes for the akas (cross beams), mast step and post. The easiest way to bore holes in foam is to round over the end of the appropriate sized dowel and use it as a drill by rotating it in your fingers and applying gentle pressure. Be patient, too much pressure and not enough twisting will cause the foam to break out. Experiment on a scrap before boring holes in the hulls. The hulls can be shaped up with a little sandpaper and decorated with magic markers or latex paint if desired.

The spars and akas are cut from common dowel to the dimensions drawn. Slot the top and bottom of the mast and top of the post for securing lines. The shape of the sail is symmetrical or double-ended and is laid out on a centerline. Cut the sail from a plastic shopping bag and tape it to the spars with vinyl tape (electrician's tape or equal). The vinyl tape makes good flags for your crew also. For rigging line use light crochet thread.

To assemble Fiji, pass the 1/8"x9" dowel akas through all three hulls, then secure with rubber bands on both sides of main hull and outside of amas. Step the mast, insert post, add crew as needed and you're ready to launch!

For full sized patterns and plans send $7.50 to Seaworthy Small Ships, P.O. Box 2863, Prince Frederick, MD 20678. For those interested in other wooden pond model boat kits and plans, send $1.00 for catalog.



Building a Second *Swallow*

By Stuart Kirkland Wier
7350 Coronado Ct.
Boulder, CO 80303

Surely many readers of *Swallows and Amazons* have wished they could relive the adventures of the Walker and Blackett children, or that their own children could. One essential element is a lake with islands, and to go with that, a boat like the *Swallow* or the *Amazon*. Several years ago I began thinking about building a reproduction of the *Swallow*, so when recently I was asked by a new reader of the Ransome stories if it would be possible to do so, I was ready with an answer. I do not know everything on the subject. Indeed, living in Colorado, I can hardly be expected to have a familiarity with English sailing craft. I do have an interest in traditional sailing craft, and especially in boats suitable for mountain lake sailing. I trust others will be able to add to what I have found.

There really is, or was, a boat called *Swallow*, which friends of Arthur Ransome used in the English Lake District. Roger Wardale, in his book *Nancy Blackett: Under Sail with Arthur Ransome* (Jonathan Cape, London, 1991), says the *Swallow* "was built for sailing in the shallow waters of Morecambe Bay" and was "built specially to navigate the treacherous and changing sands of the Kent Estuary near Arneside, where she was built by William Crossfield." Bought used she cost 15 pounds, about $750 in today's currency, about what a good used 13' boat would cost today.

The *Swallow* is an English sailing dinghy. She is of clinker construction, termed lapstrake in the U.S. The planks overlap to form ridges along the hull outside and inside, ridges which are obvious in the illustrations in *Swallows and Amazons*. Clues about her dimensions and fittings appear throughout the Ransome books. She is about 13 feet long, and carries a standing lug rig, a trapezoidal-shaped sail on two spars, the upper yard and the lower boom. All together the *Swallow* is entirely typical of English sailing dinghies of the period, and for the preceding 200 years as well. Boats like these were used in near-shore work and were carried on ships for harborgoing gigs. These were workboats and as such they had to be built to stand some rough conditions, under competent management surely, to stand rough handling and not require a lot of fussy maintenance.

Clinker building was the most common technique for small craft construction on both sides of the Atlantic before plastic and aluminum factory-built boats took over. Once learned, clinker is one of the simplest ways to build a small boat. Clinker building has not been forgotten. American builders do not usually build boats to the English dinghy style, having their own abundant traditions to work with first. Boats like the *Swallow* are still being made in the British Isles. For example, see the beautiful examples shown in the January/February 1988 issue of *Classic Boat* magazine (UK). The dinghy for the yacht *Bluebird of Chelsea* is a perfect example of the kind of construction used for the *Swallow*. That boat and others like it were made recently by McNulty Boats, Corstorphine Town, Commercial Road, South Shields, Tyne and Wear. Persons planning on building their own *Swallow* ought to obtain a copy of that issue of *Classic Boat*, if only for inspiration.

If you have the resources, perhaps $3000 or more, you can go to a builder of traditional boats and have a very nice and proper reproduction of the *Switlow* or the *Amazon* turned out for you in a matter of a few months. So far as I know, no one has yet done so. If you want to follow this line, write me and I will be glad to suggest how to find some good builders, either in the U.S. or the British Isles.

If a reproduction of the *Swallow* has been made, I would be delighted to hear of it. I was told one had been made, but received no reply to a letter I wrote to the builder.

Occasionally the *Swallow* is termed a "catboat" by U.S. writers. A true catboat is a gaff-rigged American vessel with one mast and one sail. Sometimes American sailors do term a catboat any boat with a single mast well up in the bow. At first glance, this is similar to the *Swallow*, but in detail and in spirit they are different. The true catboat has a hull form and construction different from the *Swallow*, and the rig is different. If you went to an American builder and ordered "a 13' catboat," then went to an English builder and ordered a "13' sailing dinghy," they would both know what you meant and you would end up with two very different boats, the second being something like the *Swallow*. They would serve much the same purpose, but the distinction is something like the difference between American biscuits and scones. We wouldn't confuse those, would we?

What if you want to build a copy of the *Swallow* yourself? It can be done, even by the amateur boat builder. You have to know how to build clinker, or lapstrake. You might well attend a class in lapstrake boat building. They have been offered at the WoodenBoat School, Brooklin, ME and at the San Francisco Maritime Museum. I am sure they have been offered elsewhere. These classes run a week or two. There are some tricky parts to lapstrake construction and attending a class would really set your feet on the ground. By all means take a class if you can, even one on carvel construction, to get started in boat building.

There are some fine books on clinker construction. The two on English construction are *Clinker Boat Building* by John Leather, still in print (in the U.S. it is sold by *WoodenBoat* and International Marine) and *Clenched Lap or Clinker* by Eric McKee, London: National Maritime Museum, 1972. This is excellent, but out of print.

American lapstrake methods are slightly different. There are three books (in ring binders) with builders manual and full size plans by Simon Watts: *Building the 11-1/2 foot Norwegian Sailing Pram* ("novice"), *Building the Sea Urchin a 10 foot Nova Scotia Rowing Skiff* ("intermediate") and *Building the Petaluma a 19.5 foot Rowing Shell* ("advanced"), all sold by the The Maritime Store, San Francisco. These are manuals to build particular boats, not general lapstrake building guides. The rowing skiff would be most like the *Swallow*. I suppose measurements could be increased 30% to get a *Swallow*-sized boat. More general is *Lapstrake Boat Building*, by Walter J. Simmons, 3rd ed., 133 pages, and *Lapstrake Boat Building Vol. 2*, by Walter J. Simmons. I think the *WoodenBoat* Store sells these.

You would also benefit from general works on wood boat construction which also discuss lapstrake, notably *Boat Building*, by Howard I. Chapelle, 624 pages, 250 illus. (in print for 60 years); *Boat Building Manual*, 4th edition, Robert Steward, 372 pages, 260 illus.; and *Building Classic Small Craft*, by John Gardner, 320 pages, 250 illustrations. The last book has a good discussion on clinker building on pages 266-272. If I were to build a reproduction of *Swallow* I would study these three and the works by John Leather and Eric McKee.

Standing lug rigs are described in many U.S. books such as Philip Bolger's *100 Small Boat Rigs*, and *The Sailmaker's Apprentice A Guide for the Self-Reliant Sailor* by Emiliano Marino. They are used in some popular wood boats, such as the Nutshell Pram and the Shellback Dinghy. Plans for those boats, available from the *WoodenBoat* Store, show how to construct such a rig.

At this point, it is appropriate to quote John Gardner from the book named above. "The boats discussed in this book are not especially simple or easy to build but, to the contrary, require careful and precise workmanship and some familiarity with tools and materials, none of which is beyond the reach of reasonable diligence on the part of the serious amateur." I think many builders would rate lapstrake as advanced boat building or nearly so, but lack of experience can be largely offset by patience and perseverance. If you successfully build a *Swallow*, you will have learned, if not mastered, a traditional small boat building method. Building a second boat the same way would probably be easier than building the first.

Knowing clinker construction in general, you still need to know particular details of the *Swallow* to build as close a reproduction as possible. There are no existing construction plans or measurements of the original boat. Reading *Swallows and Amazons* and *Swallowdale* reveal several details about the *Swallow*. Some of them are: She is about 13 feet long, she can carry four children and a good deal of camping gear. She can be rowed as well as sailed, though first she is a sailboat. The rig is described though not measured, it can be reefed. She has enough room forward of the mast for a small boy to stand while the boat is underway. The boom is low enough to knock the heads of crew when jibing. She carries ballast in the form of "six pigs of lead, five little ones and a big one." Each lead pig is easily carried by a child, so I suppose the total weight of ballast is roughly 100 pounds. She has loose bottomboards, flooring. The mast has no shrouds, typical of the standing lug rig. She does not have a centerboard, unlike the *Amazon*. She can be pulled up to a beach for loading, there is no deep keel. She is light enough for the children to turn over on the beach once the mast and ballast are out.

Aside from these hints, we know nothing. The original *Swallow* "has disappeared without a trace." A dedicated researcher might try to find other dinghies known to have been built by William Crossfield, if any survive. Perhaps Roger Wardale has done so; he appears to have investigated this topic pretty thoroughly.

Roger Wardale includes drawings of both the *Swallow* and the *Amazon* in his book *Nancy Blackett: Under Sail with Arthur Ransome*, a profile with sail plan and a plan view of interior arrangements. The origin of these drawings is not given, indeed they do not seem to be referred to in the book. For *Swallow*, perhaps Mr. Wardale drew on common building practices for sailing dinghies

and the descriptions of *Swallow* in the books. Anyone building a reproduction of the *Swallow* allow ought to consider these drawings, as well as any other information describing English sailing dinghies.

The drawings published by Wardale show *Swallow* with a length overall (between perpendiculars) of 13'0" inches, 5'3" beam, and 3'2" transom width. The keel is full length, it has a flat bottom for the aftermost 10'6", and extends about 5" below the bottom of the garboard strake. It is a full 12" high at the transom. The freeboard is about 1'4" amidships. The top of the mast is 15' above the sole of the keel, the boom is 12'9" long and the yard is 10'6" long. The centerline of the mast is 2'5" abaft the bow and the mast diameter at the sheerline is 3-1/2".

Given these figures and the drawings, an accomplished builder of lapstrake dinghies could build a fine reproduction of the *Swallow*. Clinker or lapstrake building involves neither the lines nor the offsets used by other methods. The builder establishes the fullness of the hull as the boat is made. A beginner in this technique probably would appreciate some sections and offsets of good dinghies as a guide. I am sure many British sources exist for this information. U.S. builders also have several examples; one that comes to hand is the plans for the gig of the yacht *Swift*, published in *More Good Boats* by Roger C. Taylor (International Marine, 1979). This gig is 13'6" long, 4'6" beam and of very similar form to the *Swallow*, though it is planked carvel-style rather than lapstrake. To make a *Swallow* reproduction, one might take the offsets for this gig, increasing the width values by one part in six to obtain the desired beam. The lines are to outside of plank, so that would have to be allowed for as well. All routine stuff for the boat builder.

It is clear that no one can make an exact replica of the *Swallow*, we simply do not know the details. We can make boats very much like the *Swallow*. The *Amazon* is another matter. The original boat is kept in the Windermere Steamboat Museum at the suggestion of Roger Wardale. The restoration of this boat in 1988 led to the creation of the Arthur Ransome Society. Perhaps measured drawings were made of the *Amazon* at the time of reconstruction. The Museum might well honor a request by a competent boat designer to take off the lines and make construction drawings, if this has not already been done. Presumably the drawings in Wardale's book are accurate representations of the actual *Amazon*, though they are not construction drawings. The *Amazon*'s beam is 4'0", so she would be a lot less stable than the *Swallow*, and two children would be the right crew. For non-sailors, I should note that "less stable" does not mean unsafe, it's a performance description.

How would the *Swallow* sail? The *Swallow* is by no means a tub, rather she is a "little ship" as John Walker says. The ballast, comparatively wide beam and flat floors amidships would make a stiff or stable craft, one that could stand up to a breeze, as demonstrated in the boat race in *Swallowdale*. It would be difficult, though not literally impossible, to capsize the *Swallow*. Doing so would be a disaster since the ballast would make the boat sink promptly. The long keel would help keep the boat on course. This has the advantage of not having a sensitive helm which requires very careful minding, a good thing for persons learning to sail or for those distracted by younger siblings, pirates and parrots in cages. The long keel and generous weight means coming about requires more time and a different technique than in a racing dinghy. You sail through the wind after getting up a good head of steam and come around handsomely, rather than just shoving the tiller over.

The description of sailing under strong and gusty winds in *Swallowdale*, just before John is caught sailing by the lee and strikes a rock, is one anyone who has sailed in similar conditions in a good small boat will recognize. But the *Swallow* is very little like the light, narrow, centerboard dinghies used for sail training these days. Such boats are very good for training since the quick response to any action reinforces cause and effect, and speed excites many youngsters. Transferring to the *Swallow* might take a while to learn how to get the best out of her.

I would suggest that anyone considering sending off their children, or themselves, to have sailing adventures be sure that the crew knows exactly what they are doing. Thorough training was the order of the day before the Walkers and Blacketts became Swallows and Amazons. The books make this sailing business sound easier, and perhaps safer, than it is. There is a finite chance that in a boat like the *Swallow*, on lakes with strong winds, the duffers will at least get very wet. If not duffers, they shouldn't come to real harm if trained properly. Wearing good life jackets is sensible though very dispiriting and a very naive sort of thing to say. That's what parents are for, I am afraid.

So three cheers for those who want to make more *Swallows*! Let's hope there is a whole fleet of them in a few years, and a whole flock of kids who know the thrills of self-reliant adventure in sailboats.

If building an English sailing dinghy sounds like a bit much but you still want to put to sea, there are still good opportunities. You can build a simpler boat than the *Swallow*, more or less similar to it, or you can buy a boat that will serve the purpose. The closest thing to the *Swallow*, but easier is to build, uses a technique called glued plywood lapstrake. This has several advantages. It is some what easier to build, it is easier to clean and maintain and it stands being out of water better. It is probably cheaper. A glued plywood lapstrake hull can be kept on a trailer. A true clinker should sit in water except for winter storage. I know of one that looks a lot like the *Swallow*. It is the *Ptarmigan*, designed by Ian Oughtred (Gorton House Cottage, Lasswade, Edinburgh, EH 181 EH, Scotland). I don't know if this is a ballasted boat or a centerboarder. Mr. Oughtred might well be able to advise on other *Swallow*-like boats and their suitability for your purposes.

The working skiff of some 13 feet in length, able to carry a load and still row and sail, has been a perennial need of boatmen for centuries. There are many traditional designs available and some, such as the Chesapeake flat-bottomed skiffs, are much easier to build than lapstrake. There are many new, easy designs for home builders. One similar in function and performance to the *Swallow* is the *Bobcat* designed by Philip Bolger. But this subject requires another article: Boats to follow the *Swallow*'s wake.

Modern production is largely devoted to light, fast, racing sailboats. Asking most new boat dealers for a 13 foot sailboat to carry four children and their camping supplies and pets safely, and that can be rowed as well as sailed, will usually produce incredulity. "Such a thing has never been invented," they will say. Do not look there for help. Refer instead to the traditional boating magazines: *WoodenBoat* and *Messing About in Boats* in North America, and *The Boatman* and *Afloat* in the U.K. The wooden boat revival is in good health. There are many others who can help you find what you want.

Observations on Cavitation and on Leverage (Oars)

By Dennis Bradley

Much has happened since I last submitted an article about our Bolger 'Long Micro' *Julia May* and our trip to Cedar Key. I retired in March from the Forest Service after 30 years and have sailed and cruised almost to my heart's content, with some time for Habitat for Humanity and volunteer work with the FS. Trips include some Mississippi River and other messabout adventures under the auspices of the Midwest Boat Building Association (Brad Buxton, President). Linda and I spent a week with on Leech Lake in northern Minnesota with Marc Lindgren and family and his Bolger 'Martha Jane' *Thumper* (because it pounds so in a chop).

But the highlight was a month along the Gulf Coast of Florida, Alabama, Mississippi and Louisiana during which I spent about two-and-a-half weeks cruising and dodging hurricanes, the advantage of a trailerable cannot be overestimated. Part of the time I was with Jaap Creutzberg, a Dutchman from St. Paul and London, with my wife Linda, and then all by myself. A major problem on the trip was that *Messing About* failed to follow me, but on the other hand, many were waiting when I returned, and a homecoming it was.

But two items in these and earlier issues which I think contain some errors prompted me to write, for mental fun, not to embarrass, for these "mistakes" will not cause the planets to stop circling the sun, pensioners to begin eating dog food nor children to starve tonight, etc.

First was a comment by Phil Bolger in his bimonthly cartoon referring to my earlier observation about the *Julia May*. I had observed what at first seemed like a line trailing in the water. It turned out, I thought, to be a vortex of entrained air caused by the flat and rockered bottom and the full-length keel when heeled over at sailing speed. Bolger said it was not air but the result of cavitation characteristic of shallow draft keels,

Cavitation, commonly occurring on outboard propeller blades with too much power applied, is the actual boiling of the water due, not to a raising of water temperature, but to the too rapid drop in pressure as the water moves over the blade. A similar effect would be observed by placing a pot of water in a vacuum but at room temperature, with no air pressure to constrain the vapor pressure, the water would literally boil away. Cavitation is parasitic as it consumes power that should be moving the boat through the water.

I accepted Phil's explanation at first and told several friends about it; after all, he's thought about boat performance for a very long time indeed. I especially liked his comment, still true, however this "controversy" is resolved, that " Deep keel boats sail better than shallow keel boats everywhere except where deep keel boats can't sail at all!" However, after thinking about his explanation some more I disagree.

While cavitation may still occur because the keel is too shallow, it couldn't possibly persist long enough to be observed 30+ feet behind the boat. As soon as the cavitation bubble, with water vapor, not air in it, left the spot where it originated, the bubble would collapse;

there is no energy available to maintain the bubble. Or so I reason. It might also help to note that the full length keel of the *Julia May* has fill and drain holes in the six or so chambers in front and in back of the ballast. Might these not also be involved in what I am pretty certain is entrainment??

Second, an article by Jim Michalak regarding the lever involved in rowing made several errors in analysis and which, if clarified, may be useful to some. Several matters must be reviewed.

First, levers, like oars, give us a mechanical advantage to either multiply the force we can apply to a load or multiply the distance through which we can move this load. Physicists distinguish three types of levers by the positions of the fulcrum relative to the force applied and this load; 1) fulcrum somewhere in the middle of the lever, force is applied through a distance on one end and a load is moved with another force and through another distance at the other end; 2) fulcrum on one end, input force on the other end and load somewhere between them; and 3) fulcrum on one end, load on the other end, force somewhere between. (See figures).

Second, a ratio: *proportion of lever length from the applied or input force to the fulcrum, versus proportion of lever length from output force to the fulcrum* determines whether we multiply the output force *or* the output distance the load is moved.

Third, and most important, like all devices for attaining a mechanical advantage, and for given a fixed input force, we can *either* gain an advantage of output force at the position of the load, or an advantage of output distance, *but both advantages cannot be maximized at the same time.* We have to decide which advantage is more important in each application, the possible arrangement of fulcrum and input force available to the designer and choose the lever type that will deliver what we want.

For example, with a teeter-totter and a fulcrum precisely in the middle, no multiplication of force or distance occurs, the only advantage is that the load moves in the opposite direction.

The major point where Jim goes astray concerns determining what kind of lever is involved in an oar; that is, especially, where is the fulcrum? Errors then compound each other in the ensuing discussion, especially the calculations of force and distances. The problem is, rowing involves two kinds of levers!!!

Jim assumes that the lever is of the *first kind* with the fulcrum, the oar lock, between the force and the load. And he's partly correct, but only when the rower is retrieving the oar to make the next stroke. When planting the blade in the water for the "power" portion of the stroke, the leverage process changes completely. Most important, the fulcrum is no longer at the oar lock, but at the oar blade in the water. At this point, a lever of the *second kind* applies.

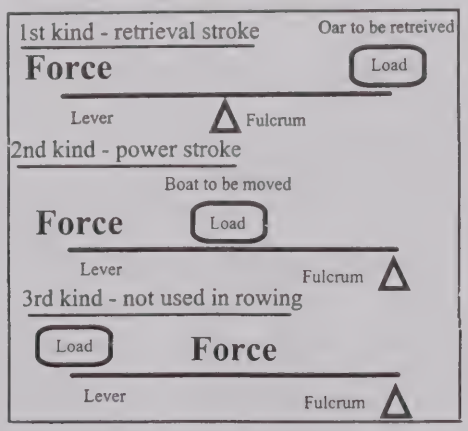
A bit more reflection should clear it up. To retrieve an oar, the simple teeter-totter effect is desired, we want our hands positioned for another stroke and the blade positioned for another "grip" on the water. But then, and ignoring slippage, an important factor, in reality, once the oar is "replanted" in the water the water can be considered as our fixed point—the fulcrum. The oarlock is now the point where both output distance and force result. The point of rowing is to move the boat through the water, not merely to "fan" the oar blade back and forth. The oarlock, and the boat it encompasses, are now the "load" we move during our power stroke.

The question then becomes one of determining the primary purpose of the craft. Are we interested in applying the available force (and limited to the strength and endurance of the usual oarsman) to move a heavy load; that is, is a multiplication of force most to be desired? Or are we interested in applying the force to move a light load as far (and as fast) as possible; that is, is a multiplication of distance (and speed) most desired? Of course, we are really interested in both, despite the impossibility to maximize them both, so the choice of oar length, lock position (on the gunwale or an outrigger and its distance from the blade), sliding seats, and other factors are always a compromise.

It is important to note that outriggers and sliding seats serve different purposes. Outriggers and, for a given total oar length, changing the ratio of lengths from the fulcrum of both input and output forces *primarily serves to multiply the rower 's output force.* Because if we wanted *most* to multiply distance moved per stroke, the locks would be right next to our hands. A very short stroke would result in a very large movement of the boat. Unfortunately, the output force on the oarlock, to move the boat, would be minuscule. In contrast, sliding seats, by allowing the rower to move the inboard end of the oar further with each stroke, *primarily serves to multiply the distance the boat is moved with each pull.*

But again, there is interaction in how these devices are set up in practice; for example, an outrigger also balances the oar better, thereby reducing unnecessary effort to retrieve the oar. In addition, the sliding seat, perhaps primarily serving to multiply distances, also allows the rower's legs to come into play, surely his or her main source of strength and endurance. So here too, Jim's comments about the advantage of sliding seats is a bit off the mark, these are always to be desired, regardless of the speed of the boat. The point is, how does the additional sophistication and cost stack up to the way the boat is usually used? For example, boat length, load, distances to be covered, rower strength, etc.

Remember, in rowing, as in so many other aspects of life, seldom are we able to have our cake and eat it too. Levers enable us to multiple force or distance but not both. Also remember, on the power portion of the stroke, the oar blade doesn't move at all, it is fixed in the water which is now the fulcrum which Archimedes immortalized in his remark, "Give me a lever long enough and a place upon which to stand, and I shall move the world!"



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In fact we were so impressed with this new epoxy that we asked the folks at Matrix to let us sell it to our customers. Working with Matrix we developed a kit especially for kayak builders. It contains: one gallon of #718 resin, 1/2 gallon of #2072 slow hardener, metered dispensing pumps, and a 1/2-gallon tub of Cab-O-Sil silica thickener powder. Now compare our $99.95 price to what you're used to paying.

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Your Ideas, Questions, Techniques, Tools

Penguin Association Whereabouts

I would like to contact the Penguin Association. Can anyone direct me to their current address.

Dick Johnson, 228 W. Main St., Point Republic, NJ 08241, (609) 485-4280.

Looking for Gooseneck Fitting

I have found no source for a gooseneck fitting for a wooden mast/boom for the 18' Alvord designed Maine Sharpie I am building. It has to fit onto a 1-1/2" square section boom and a 3-1/4"x 2-1/2" mast. Can anyone suggest a source, both Defender Industries and Jamestown Distributors do not list this in their catalogs.

On another project, has Bolger ever designed a kick-up rudder for his Teal design?

Landis Fields, 2519 So. N-52, Owosso, MI 48867.

Galusha Gas Generator Info Wanted

Some years ago I came across an article in a book by Weston Farmer about the Galusha Gas Generator. Examples of its use on a tug on the Gulf of Mexico, and on a mail boat on the Amazon were given in Farmer's book. The Galusha Gas Generator was patented in 1923 by Albert Galusha of Sharon, Massachusetts.

According to the patent, of which I acquired a copy from the patent office in Washington, Farmer was way off on his description of the scrubber. No matter, though, because the rest of his information on the Galusha Gas Generator was very interesting.

This is a very interesting gas generation system. I'm looking for more information on it and perhaps someone who may have personal experience or even know where an old model may be gathering dust in a garage or warehouse someplace.

Apparently gas generators were commonly used in the early part of this century and up until the 1930's. Since most people are too lazy and want everything at their finger tips, I don't think gas generators will ever make a comeback, but one would be a fantastic conversation piece and a very economical means of propulsion. I'd appreciate any information readers would have on this system (or any other gas generators).

Tony Topolski, 3605 Allen Rd., Eden, MD 21822, (410) 546-1542.

How to Measure Displacment?

Reading this magazine inspired me to design my own dream boat. However I don't trust my ability to measure displacement. The boat is a simple shape with flat surfaces. Would any reader who uses a computer for design be able to give me the answer? I would supply a scale view or two of the underwater shape and pay expenses involved.

I have built four canoes and a dory with ply and epoxy. If you can draw it on paper you can build it.

G.W. Scott, Rt. 3 Box 311-29, Cleveland, TX 77327.

Pulsifer Hampton Comment

I'm looking for a sturdy boat to navigate the Hudson River. Before I just go out and get a Lund SV-18 like Dave Getchell, does anyone have any insights and comments on the Pulsifer Hampton?

Steven Rossie, Royal Oak, MI, (201) 573-2270 days, (810) 682-7259 evenings and weekends.

Lapstrake Plywood Boatbuilders' Manual

After finishing up one of Iain Oughtred's designs I have learned that he has revised his popular *Clinker Plywood Building Procedure*, increasing it from 20 to over 60 pages. I recently was able to review the new manual, entitled *Lapstrake Plywood Boatbuilders' Manual*. In it are detailed procedures for building small craft, covering canoes, dories, skiffs and prams, in glued-lap clinker plywood methods. It is full of pictures and details from setting up to finishing off.

The book is available from Iain Oughtred, Gorton House Cottage, Lasswade, Edinburgh EH181EH, Scotland, telephone 031-40-0828. I do not know the price as my copy was included in a set of his plans I purchased.

Dan Drath, Drath Marine Service, P.O. Box 620639, Woodside, CA 94062-0639.

Putter Around Boat Wanted

I was able to row a peapod at St. Michaels after talking with its builder, John England of Urbanna, Virginia. I'd like to trade my A.O.S. shell for one of these (John had none for sale) in order to putter around in places like Dogwood Harbor at Tilghman's Island and on small canals and creeks. The long reach of the shell's oars make navigating narrows almost impossible. I'd like a boat I can cartop alone and keep in my back hall.

Charlie Hewins, 134 Wendover St., Philadelphia, PA 19127-1713.

Bolger on Design

Training Dinghy Concept

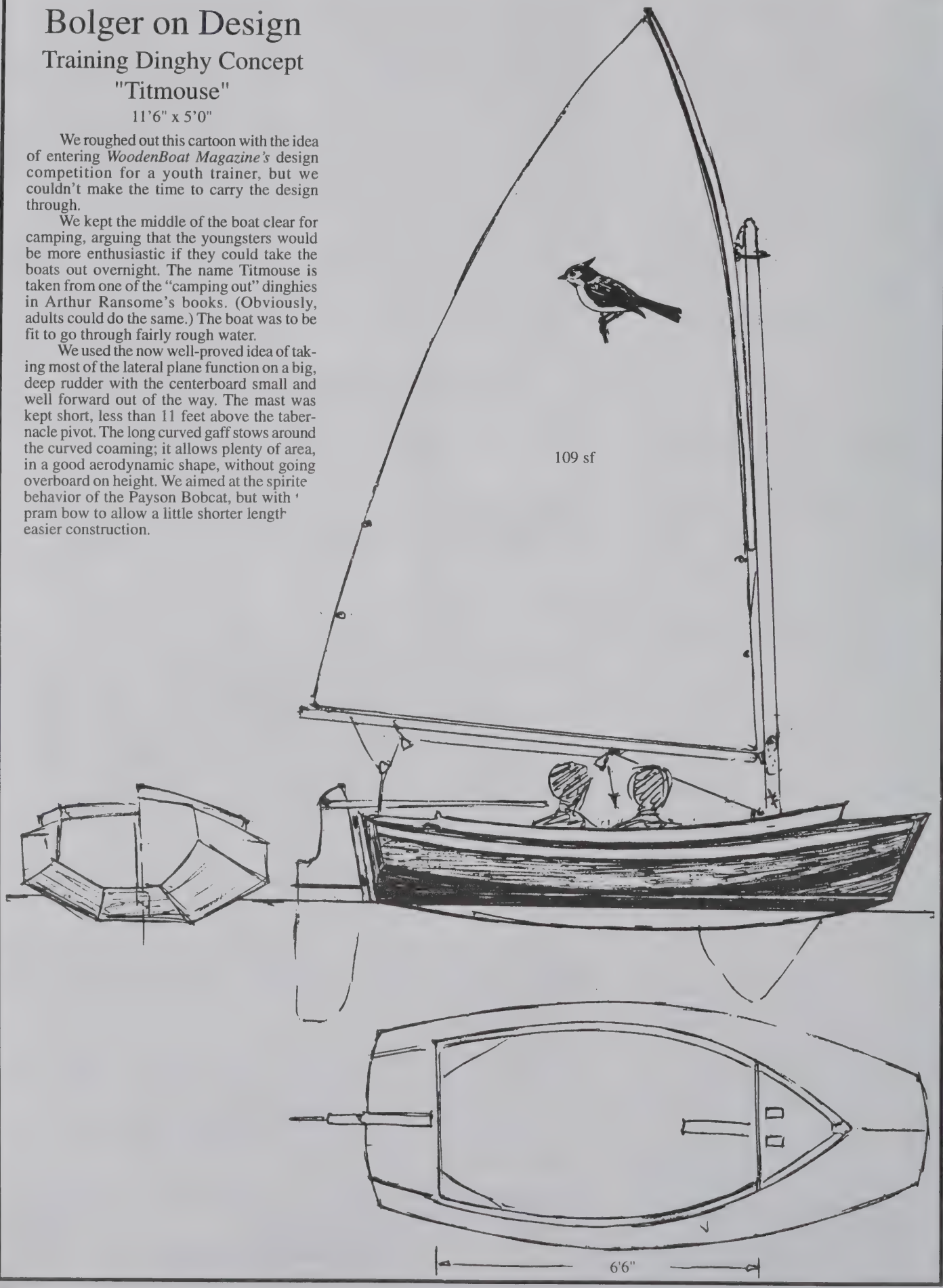
"Titmouse"

11'6" x 5'0"

We roughed out this cartoon with the idea of entering *WoodenBoat Magazine's* design competition for a youth trainer, but we couldn't make the time to carry the design through.

We kept the middle of the boat clear for camping, arguing that the youngsters would be more enthusiastic if they could take the boats out overnight. The name Titmouse is taken from one of the "camping out" dinghies in Arthur Ransome's books. (Obviously, adults could do the same.) The boat was to be fit to go through fairly rough water.

We used the now well-proved idea of taking most of the lateral plane function on a big, deep rudder with the centerboard small and well forward out of the way. The mast was kept short, less than 11 feet above the tabernacle pivot. The long curved gaff stows around the curved coaming; it allows plenty of area, in a good aerodynamic shape, without going overboard on height. We aimed at the spirite behavior of the Payson Bobcat, but with ' pram bow to allow a little shorter length easier construction.



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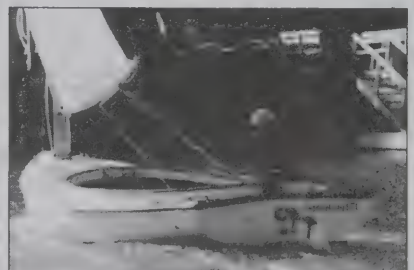

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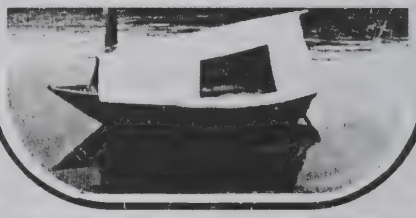

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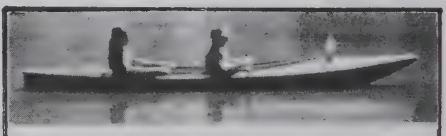

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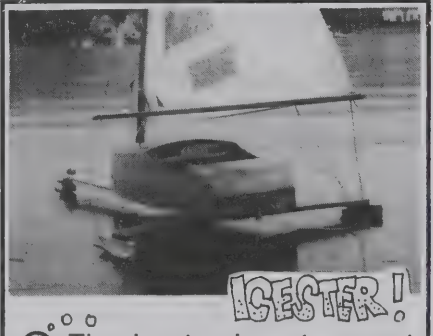

The Icester is a two seat touring iceboat which can be built from three sheets of lauan and one sheet of 3/4" plywood. DN or homemade gear can be used. Spars are from 2X stock.

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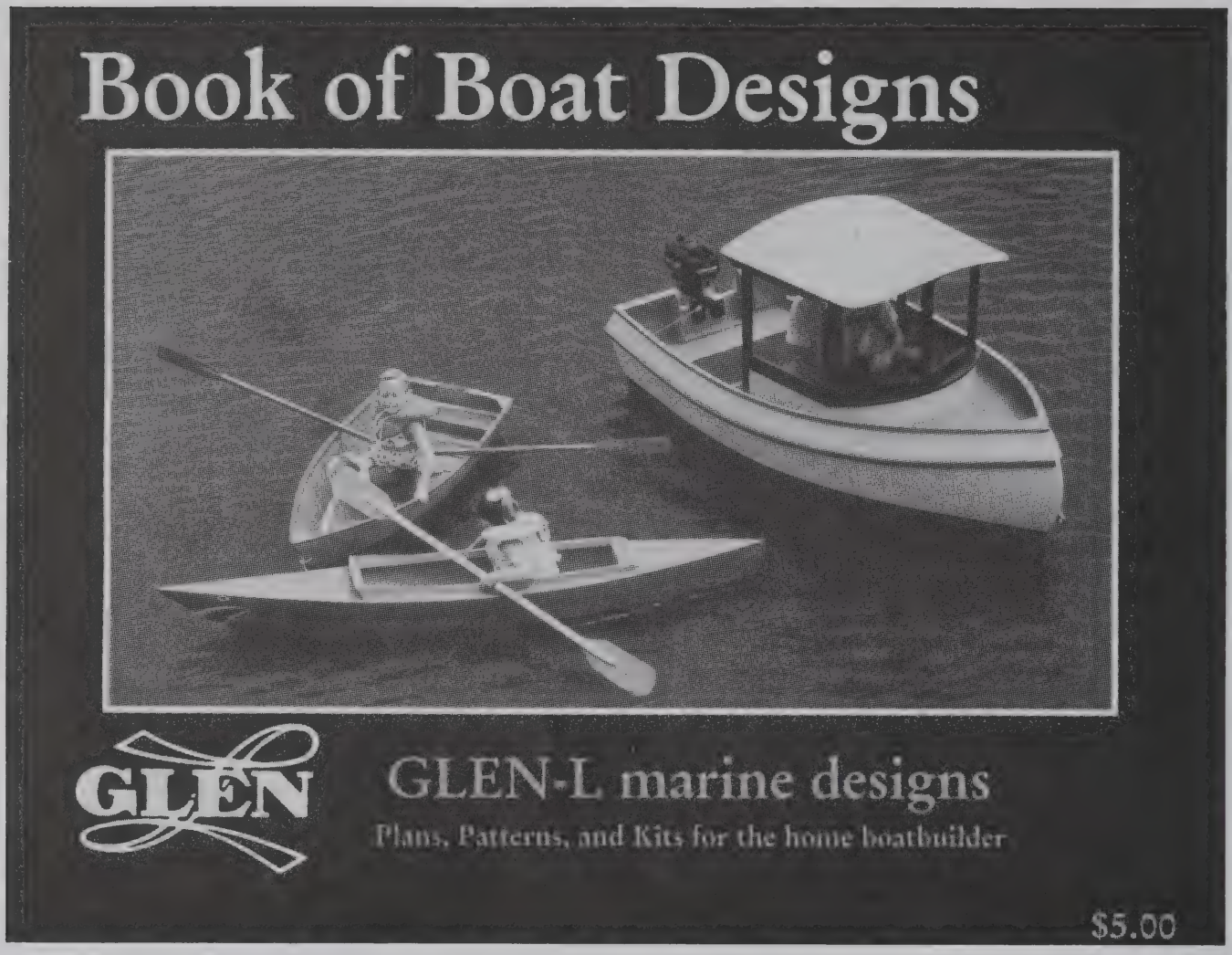


Glen L's "Got a Bang Out Of" Boats

We've just finished three boats that we all got a bang out of. We took the just completed boats; Kid-Row (a 6' rowboat), Kidyak (a 9' kayak) and Tubby Tug (a 9' miniature tugboat) down to our local waterway. Nothing unusual in that; we do it all the time. But this time we took some kids along for the testing and photographic session. After all, these are boats "just for kids".

If you are a parent, grandparent, rela-tive or just good friends with a kid or so, you'd have beamed at their enjoyment. Adults have boats; kids usually don't. When they become captains of their own ships, the smiles are endless and laughter abounds. It's contagious; everyone likes to see kids enjoy themselves. But their's wasn't just enjoyment, is was wild enthusiasm.

If you have a favorite youngster, make him the king of the block; the head honcho of his peers. Build a boat just for him or her, and you'll be repaid manyfold, and that special little one will place you at the top of his list for all times.

We did notice something unusual about this trip. The Tubby Tug was the favorite and "it's my turn to drive next" was a frequent demand. But somehow "big kids" seemed to be crowding the youngsters away from the helm, especially one grandparent who shall remain nameless. So be forewarned, kids do come in all ages.

The three boats shown, Tubby Tug, Kidyak, and Kid-Row are featured on the cover of our new catalog and described therein.

Glen L's *Book of Boat Designs*

The new Glen L. catalog pictured above is now available for $5 air mail. It is a big one, 176 pages chock-a-block full of study plans/ specs on a host of designs for home builders. Following 16 pages of details on all the other aspects of the Glen L. total package for home builders, which include books, videos, kits of frames, fiberglass, hardware, gear, rigging, etc., the study plans start off with the 8' "Eightball" sailing dinghy, on up to a 55' steel cruising sailboat. Then attention turns to paddling with canoes and kayaks, rowing with skiffs and dories, then on to powerboats, outboard skiffs on up to a 49' plywood/fiberglass inboard cruising yacht.

The range of designs is impressive, 202 in all! Glen L. has been around a long time, they go back to the days when homebuilding was commonplace, and stuck around ever since constantly adding to their offerings.

Names are fascinating to me as a words guy. How about "Centerfold"? It's an 8' take-apart tender. "Francis Drake" is a 29' world cruising sailboat. The "Mark Twain Series" are pontoon houseboats, 28' to 40'. "Picklefork" is a 9-1/2' hydroplane. "Play 'N Jane" is a 22' trailerable utility craft characterized as "she might look plain but she's no ordinary boat." "Sherwood Queen" is a15'6" minitug. And so on.

There's a lot of interesting reading in this catalog for only $5 and maybe you might even find something you like. If that happens you'll then discover when you look into it that Glen L. is ready to help you to almost whatever lengths you wish, short of actually building the boat for you. Their purpose is to make it easy for someone to build a boat, and if what you need is ease of building, rather than challenge, look into what Glen L. has to offer.

Glen L. Marine Designs, P.O. Box 1804, Bellflower, CA 90706-2138.

Classified Marketplace

BOATS FOR SALE

15' Gypsy, Bolger-designed, epoxy & glass on lauan, finished bright w/red racing stripes. Sails & rows beautifully & is cartoppable. $1,000 US OBO.
HERB TAYLOR, Russell, ON, (613) 445-5413. (17)

Hobie 18 Magnum, Magnum outrigger wings, trlr, multicolor "prism" sail incl is an extra jib, double trapeze w/harnesses, Mercury 2.2 OB w/bracket, mast caddies (2),E-Z step mast raising system. $2995.
DANIEL V. COAKLEY, 833 Concord Tpke., Arlington, MA 02174, (617) 646-6355. (17)

9' Dyer Dhow, exc condition, '86 sailing version. $1200.00.
23' AMF/Paceship, '77, vy gd cond. 3 Sails, cabin cushions, port-o-potti. Some CG equipment. Wheel steering. Stable family cruiser. $2,850.
DAVID A. SOLTESZ, 5N3 Arbor Green, 275 Green St., Edgewater Park, NJ 08010, (609) 877-6771. (17)

12' Illusion Class Mini-12 Meter, experience the thrill of racing in this exciting single hander. Awesome fun & a real eye catcher! Complete with main, roller furling jib, spinnaker, pole, & cradle. Standing and running rigging in exc shape. Easy car topper, removable ballast lead shot in 20lb canvas bags. $1,200 OBO.
JIM WILMERDING, P.O. Box 534, Northeast Harbor ME, (207) 276-5345. (17)

Compac 16XL, '94. Either you know or you don't! Perfect in all respects. Furling jib, 5hp kicker, etc. Regretfully & fairly offered at $7,900, incl Hutchins trlr. Delivery possible. Would consider trade for very nice 10'-12' cat/similar & cash.
MALCOLM RINGEL, Saint Michaels, MD, (410) 745-6170. (17)

Town Class Sloop, '88, wooden, fully rigged, exc cond, maintained by NY yacht yard '95. E-Z Loader trlr. $8,000. **Town Class Sloop,** '50's vintage, wooden handyman's special, w/'94 trlr (1250lbs). $1,500 OBO. **Town Class Sloop FG Hull,** w/Honduras trim & seats. Just add hrdwre off your old boat. $6,000. **Fleet-O-Wing Sloop,** '84, 18'LOA, 28' mast, OB. Gd cond, nds paint. $7,000.
PERT LOWELL CO, Newbury, MA, (508) 462-7409. (17)

Necky Arluk 1.9 & Arluk 3 Sea Kayaks, both kevlar/carbon, in exc cond & have been stored under cover. W/travel covers, nylon spray skirts & Yakima saddles. $1,890 ea.
ISABELA CIESZYNSKI & DAVID WEST, Newport News, VA, (804) 599-0690. (17)

18' Kennebec Canoe, Kineo Special blt '31. Nds total restoration, incl canvas & gunwales. Compl w/bldrs plate #2960. Come & get it. Pix available.
ROY TERWILLIGER, Harwich, MA, (508) 432-0549. (17)

Capri 18, *Trivial Pursuit,* shoal draft cruiser for 2, day sail 4, R/F jib, mounted boarding ladder, customized trlr, grt OB, etc. $5,500 incl mooring in Marblehead, MA (Salem hrbr nr town landing) & spring launch.
ISAAC SIEGEL, Billerica, MA, (508) 436-3182, lv message. (17)

14' Penn Yan Runabout, '41 dual cockpit. Useable as is but worth restoration. $500. Trlr available for $350.
VI BEAUDREAU, 7 Pepercorn Ln., E. Granby, CT 06026, (203) 658-0869 eves & wknds, (203) 547-6303 wkdys. (17)

CLASSIFIED ADVERTISING INFORMATION:

Classified ads are **FREE TO SUBSCRIBERS** for personally owned boat related items. Each ad will automatically appear in two consecutive issues. Further publication of any ad may be had on request.

A one-time charge of $8 will be made for any photograph included with any ad to cover the cost to use of the necessary halftone. For return of photo following publication, include a self-addressed stamped envelope.

Non-subscribers and commercial businesses may purchase classified ads at $.25 per word per issue. To assure accuracy, please type or print your ad copy clearly. Mail to *Boats*, 29 Burley St., Wenham, MA 01984. No telephone ads please.

Edith Annie, 21'x8'x 1-1/2' Nomansland ketch blt '76 at Story yard, Essex, MA. 3.5hp Petter diesel, 5 sails. Cedar on oak, best bronze hrdwre. Exc cond w/robust E-Z Loader trlr. $6,800 firm.
JIM AUSTIN, New Harbor, ME, (207) 677-3768 days, (207) 677-2453 eves. (17)

30' Classic Robert Rich Trunk Cabin Sports Fisherman, blt '54. Mahogony on oak, bronze fastened, much restoration work has been done to hull & interior teak decks. Power is V8 Chevy gas engine, boatyard maintained in gd running order, slps 3, SS galley & ice box, VHF radio, most original hrdwre for outriggers, etc., orig fighting chair, gin pole, much more. Price reduced from $12,500.00 to $5,500.00 for quick sale. STEVE WILLARD, 64 Orne St., Marblehead, MA 01945, (617) 631-8462. (17)

Boston Rowing Shell, '88, w/'93 Alden Deltor composite oars. Vy gd cond. Asking $650.
DAVID KRAMER, Greenwich, CT, (203) 629-8391, lv message. (18)

10' Atkin Rowing Skiff, w/oars. Cedar planked, copper riveted, plywood bottom, inside varnished. New. $900. **15' Perception Canoe,** Chattanooga model, w/paddles & air bag. $450.
ED MARTIN, Easton, PA, (610) 253-9210. (18)

Precision Sailboats, now on display the all new 15' & 16-1/2' self righting keel models.
FERNALD'S, Rt. 1A, Newbury, MA 01951, (508) 465-0312. (18)

ComPac Sailboats, now on display the Classic 16 now w/added CB, & the lively new Raven.
FERNALD'S, Rt. 1A, Newbury, MA 01951, (508) 465-0312. (18)

9' Achilles Inflatable, professionally restored '94 but not used enough. Takes max 6hp OB, max wgt cap 550lbs, new pump, nds oars. $465. **8' Dink,** not used last 2 yrs. Takes 2hp, tot wgt cap 455lbs, nds oars. $450.
FRED WELLS, Ipswich, MA, (508) 356-2504. (18)

16' Alden Ocean Shell, single, exc cond, w/oars. $1,000.
FRED WELLS, Ipswich, MA, (508) 356-2504. (18)

15' Gloucester Gull Dory, $800. **12' Fred Shell Swifty Day Sailer,** $900. **14' Sprite Sliding Seat Boat,** $1,700. **14' Easy Beauty Wineglass Wherry,** $1,700. Will custom bld Sprite or Wherry for $2,400. **FG Canoe,** $300. All lk new. Must sell a couple so I can bld more.
DAVID RAY, Petaluma, CA, (707) 769-1997. (18)

Bolger Oldshoe, *Passing Wind* as seen @ '95 St. Michaels Festival & on pg 15 of Nov 1, '95 issue. Blt '91 by Ray Schaeffer, Brooklyn, NY, w/well cut set tanbark sails. $1,400 firm incl fitted '94 Load Rite trlr, $850 boat only. Possible interest in trade for Bolger Zephyr, Pirate Racer or Jinny.
NED ASPLUNDH, Feasterville, PA, (215) 357-8525 aft 7pm, e-mail to BreezinUp@aol.com. (18)

Custom Built Rowboats, 10' round bottom.
JOHN DAVIES, Penobscot, ME, (207) 326-8704. (18P)

BOATS WANTED

Town Class Sloop, wooden, compl & in gd cond.
DAVID WIGGINS, 12 Biltmore Ave., Providence, RI 02908-3513, (401) 351-3809 eves. (17)

12'-14' Whitehall, ltwt wood or FG, row/sail.
P. BERMAN, 9 Tulip Tree, Norwalk, CT 06851. (17)

Truscott or Lozier Launch, any cond. Also interested in parts, catalogs, related info.
ANDREW MENKART, (609) 428-7357. (18)

Raven Sailboat, wood or FG, any cond.
DOUG GRAY, 1538 Hollywood Dr., Lancaster, PA 17601, (717) 299-1176. (18)

SALES & RIGGING WANTED

Jib, Mainsail, marconi rig approx 80sf for 16' FG peapod.
ROBERT NIELSEN, Sandpoint, ID, (208) 263-0416. (18)

GEAR FOR SALE

Misc Hrdwre, from deceased "Townies", grt for home builder. **'60 Palmer Marine Engine,** Model PW27, incl starter-generator, owner's manual. $800 OBO.
PERT LOWELL CO., Newbury, MA, (508) 462-7409. (17)

18hp Saab Diesel, compl w/variable pitch prop & shaft. $2,500 firm.
GENE GIFFORDS, E. Islip, NY, (516) 582-1808 work. (17)

Garage Sale. '85 Honda OB, 10hp longshaft & tank, $400. **British Seagull OB,** 5hp longshaft, $180. **Origo Stove,** single-burner alcohol, used once, $90. **Alcohol Stove,** Seaworthy double-burner pressurized $17. **Fisher Jib,** for Thistle, never used, $200. **Oarmaster Sliding Seat,** grt cond, $200 (oars available). Will take small CQR in some sort of trade. Call for details and long-winded stories about the above.
PAUL ROSSMAN, 25C Broad Street, Charleston, SC 29401, (803) 723-3213. (17)

Pettit Seaworthy Paint, 1 unopened gal of commercial red antifouling. Cost me $28.70 from Hamilton's. 1st $18 takes it if you pick it up.
LES GOULD, Exeter, NH, (603) 772-7890. (17)

CAHVG Western Red Cedar, exceptional lot, 4/4 rough, widths to 20", lengths to 20'. 1,966bf available, $ negotiable to serious buyer. **Eastern Spruce,** clear 6/4 for paddles, oars & spars. Send SASE for detailed list.
NATE CAREY, P.O. Box 27, Grantham, NH 03753, (603) 863-2915. (18)

'74 Johnson OB, 4hp short shaft, gd cond. $200/OBO.
JON ABORN, Buzzards Bay, MA, (508) 759-9786. (18)

Fiat Injector Pump, Bosch licensed, w/low hrs, for 6 cyl Ford diesel. $500/OBO.
TONY TOPOLSKI, Eden, MD, (410) 546-1542. (18)

3hp Evinrude Yachtwin, Model 3632E, w/folding lwr unit for compact storage. 50hrs running time. $650.
TOM SLEEPER, Edgemere Rd., Marblehead, MA 01945, (617) 631-1855. (18)

12# Folding Anchor, wht vinyl covered, w/7' of 5/16" chain, 85' of 1/2" 3-strand nylon line. Never used. $90/OBO plus shipping (approx 25lbs). **Airguide Compass,** 3-1/4" beveled black card, bulkhead mnt. $35/OBO plus shipping (approx 3lbs).
DON REINSFELDER, 272 Ridge Tr. Dr., Chesterfield, MO 63017, (314) 434-3520. (18)

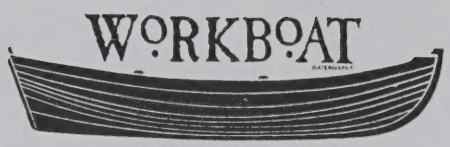
Sliding Rowing Seat, w/outriggers, drop-in unit. Blt from *Popular Science* plans which are incl. $25. **Spoon Blade Oars,** antique, spruce, 7-1/2'. $50.
JERRY BAKKE, 1872 Walnut St., Muskegon, MI 49441, (616) 755-7528. (18)

THE ALMIGHTY HIMSELF ENTRUSTED THE FUTURE OF ALL LIVING CREATURES TO...

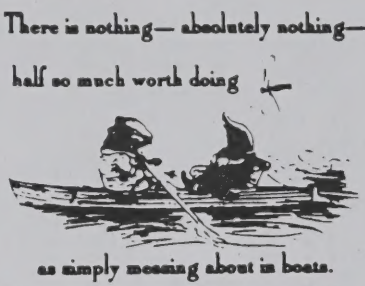
A WOODEN BOAT

T-SHIRTS, as seen at Mid-Atlantic Small Craft Festival. Hvywght 100% cotton, natural color w/dark green print. Short sleeve, M,L,XL. $12. Shipping $3.50.
FAUS DESIGNS, 81 White Dogwood Dr., Etters, PA 17319. (18P)

British Seagull Parts & Service. Many in-stock items are discounted. Please send FULL Serial Number/letter code from R/H side of crankcase when ordering.
ROB ALLAN, 7044 Justine Dr., Malton ON L4T IM3, Canada, (905) 676-8880; Fax (905) 676-8878. (TFP)



THE WORKBOAT SHIRT AS FEATURED AT THE WOODEN BOAT SHOW. If you row you'll want this shirt. 100% heavy weight cotton shirt in green. Sizes: M, L, XL & XXL. $16 ea., $3.75 S&H. Please add $2 for XXL size. Order toll free (800) 985-7633. Visa, MC, American Express.
WATERMARK, P.O. Box 1037M, Kennebunk, ME 04043. (TFP)



T-SHIRTS featuring illustration & quotation from *The Wind in the Willows.* Heavyweight 100% cotton, natural color. Short sleeve $15.50. Long sleeve $21.00. 50/50 gray sweatshirt $25.50. M,L,XL. Shipping $3.50.
DESIGN WORKS, Dept MC, Box 880, Silver Spring, MD 20918. (TFP)

GEAR WANTED

X-Oarcizer, for Oarmaster.
KEN ONG, Douglaston, NY, (718) 631-9011, 71763.377@COMPUSERVECOM. (17)

Table Saw & Lathe.
PAUL MURRAY, 99 Wildwood Rd., Storrs, CT 06268, (203) 429-1661. (17)

Hurth Transmission, 1-1/2 to 1, used or rebuildable, for 130hp diesel.
TONY TOPOLSKI, 3605 Allen Rd., Eden, MD 21822, (410) 546-1542. (17)

6-8hp OB Motor, short shaft, any repairable cond. Reasonably priced.
JON ABORN, Buzzards Bay, MA, (508) 759-9786. (18)

Transportation, for small marine engine & some parts from IN to PA or NJ. Payment negotiable.
ANDREW MENKART, (609) 428-7357. (18)

Windshield, for '58 Wolverine OB runabout. Stand alone type, 5' beam. Anyone with info call collect.
JIM MINCHEN, Wrightsville Beach, NC, (910) 799-5003 days, (910) 256-3604 eves. (18)

BOOKS & PLANS FOR SALE

Catalogs, boats & engines, copies & originals, from the '30s to the '70s. Send $1, refundable, for 5 page inventory.
JOHN LOGAN, 212 Swinomish Dr., La Conner, WA 98257, (360) 466-4360. (17)

Boating Magazines, 16 *Boat Builder*, 12 *WoodenBoat*, 90 *Messing About in Boats*, 6 *Science & Mechanics Boatbuilders' Handbooks*, '61-'62. $50.
JOE TRAVIS, 970 N Allen Chapel Rd., Kendallville, IN 46755. (18)

WoodenBoat, #1 to #113, missing #25-#75, #101-#102, plus some extra issues. $300 plus shipping. Trade for small OB motor, model boat kits, model boat books and mags.
BILL SHAUGHNESSY, 224 Henderson Ln., Talladega, AL 35160, (205) 268-0276 aft 6pm central time. (18)

Birchbark Canoe Building Course, summer '96, Lake Superior, WI. $750 incl lodging.
GIDMARK, Dept. U, Box 26, Maniwaki, QU J9E 3B3, Canada. (19P)

"Sleeper", 7'10" car toppable sailing cruiser. Slps 2 below deck. Plans $37, info $3.
EPOCH PRESS, P.O. Box 3047, San Rafael, CA 94912. (1P)

Row to Alaska by Wind & Oar, new book about adventure of retired couple rowing up Inside Passage to Alaska. Reviewed in March 15, 1995 issue. $12 postpaid.
NANCY ASHENFELTER, 3915 "N" Ave., Anacortes, WA 98221. (TF)

Outboard Skippers, improve your skills & discover the tremendous possibilities of boats under 20' in length. *The Outboard Boater's Handbook* covers all aspects of these amazing boats. Edited by Dave Getchell, Sr., founding editor of the *Small Boat Journal.* Send $21.50, incl S&H.
D.R. GETCHELL, RR 1 Box 3355, Appleton, ME 04862. (TF)

Boatbuilding Articles. Copies of articles from old boatbuilding manuals. It is possible to build a boat from most of these articles. $4 for list of hundreds.
E.G. RAGSDALE, P.O. Box 153, Florence, OR 97439, (503) 997-7818. (TF)

Canoeing Journals of James S. Cawley, 1915-1919. Available in paperback. Daily writings of canoeing & camping on various adventure cruises. Written by co-author (with wife) of *Exploring the Little Rivers of New Jersey*, these journals were re-discovered & are now published for the 1st time. $10 postpaid.
NANCY C. JEROME, 160 Godfrey Rd., E. Thetford, VT 05043. (TF)

Out Your Backdoor #7. The boatiest bunch of biking, archery & other adventure stories you'll ever read. No boat story per se this issue but plenty of wild boat vibe. 48 stunning pages. Legible layout. "I just discovered *OYB*. Where have I been? Living in cave? $8 for 4/issue sub.
OYB, 4686 Meridian Rd., Williamston, MI 48895. (TF)

Plans, range of beautiful canoes/kayaks in ply/epoxy. Send $2 bills only.
PHIL GREEN DESIGNS, 2 Keep Cottages, Berry Pomeroy, Totnes, Devon. TQ9 6LH. England. (TFP)

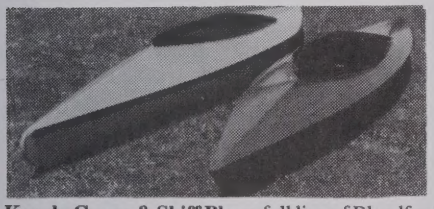
Canoe/Kayak Plans, 16' wood/canvas, can be fiberglassed. Since 1962. Free information.
TRAILCRAFT, 405 State St. Dept. M, El Dorado, KS 67042. (TFP)

Canoe Lines, Plans, Offsets, Mold Patterns, for 12', 14-1/2', 16' & 18-1/2' canoes drawn for traditional beauty & versatiity. Sized for either strip blt or wood/canvas construction.
FRANKLIN CEDAR CANOES, Box 175, Franklin, ME 04634, (207) 565-2282. (TFP)

Sea Kayak Plans. "Seguin" is a sleek ltwt kayak designed for ocean touring. Classic Greenland lines. Simple stitch & tape construction is ideal for the home builder. Easy to follow plans are accompanied by 40 pg construction manual.
ROB BRYAN, Kennebec Designs, RR2 Box 311, S. Harpswell, ME 04079. (TFP)

Classic Moth Boat Plans, available for the Dorr Willey type sailboat. Qualifies for annual regatta in September. Plans $25 + $3 postage.
MUSEUM OF THE ALBEMARLE, 1116 US Hwy 175, Elizabeth City, NC 27909, (919) 335-1453. (TFP)

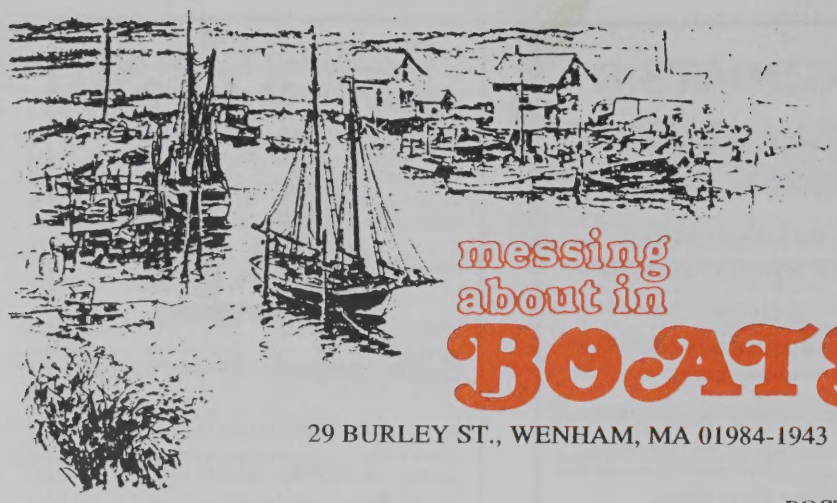
Building Plans: "Fiddlehead", 10-1/2' decked canoe. $39. **Thistle,** 12' fin powered pedal boat. $50. Traditional constr, full sized patterns, extensive bldg manuals. Send for details
H. BRYAN BOATBUILDING, RR4, St. George, NB E0G 2Y0, Canada. (TFP)



Kayak, Canoe & Skiff Plans, full line of Blandford plans. $2 for list of 19 plans.
JOE D. COX, RR1 Box 360, Farmland, IN 47340. (TFP)

BOOKS & PLANS WANTED

Boats, Oars & Rowing, by Culler. Buy or swap for any one of following: Bailey's *Coast of Summer*; Brewer's *Understanding Boat Design* (4th); Chapman's *Piloting* (61st); Cole's *Away All Boats*; Frankel's *Gently With the Tides*; Gerr's *Nature of Boats*, Henderson's Sail & Power (4th) or *Sea Sense* (3rd); Hinz's *Anchoring & Mooring* (2nd), Stilgoe's *Alongshore;* Trefethen's *Wooden Boat Renovation*; Williams' *Chesapeake Almanac* or *Exploring the Chesapeake in Small Boats.*
SAM Mc CANDLESS, 55 Williston Rd., Brookline, MA 02146-2144, (617) 739-6093 before 9pm. (17)



messing about in BOATS

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